ALIGNING PROFESSIONAL LEARNING WITH NATIONAL BOARD CERTIFICATION TO DEVELOP TEACHER SELF-EFFICACY

by

Rhonda L. Asplen

An education leadership portfolio submitted to the Faculty of the University of Delaware in partial fulfillment of the requirements for the degree of Doctor of Educational Leadership.

Summer 2024

© 2024 Rhonda Lynn Asplen
All Rights Reserved

ALIGNING PROFESSIONAL LEARNING WITH NATIONAL BOARD CERTIFICATION TO DEVELOP TEACHER SELF-EFFICACY

by

Rhonda L. Asplen

Approved: _____
Laura Desimone, Ph.D.
Interim Director of the School of Education

Approved: _____
Gary T. Henry, Ph.D.
Dean of the College of Education and Human Development

Approved: _____
Louis F. Rossi, Ph.D.
Vice Provost for Graduate and Professional Education and
Dean of the Graduate College

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____
Sharon Walpole, Ph. D.
Professor in charge of education leadership portfolio

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

William E. Lewis, Ph.D.
Member of education leadership portfolio committee

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

Lauren Bailes, Ph. D.
Member of education leadership portfolio committee

I certify that I have read this education leadership portfolio and that in my opinion it meets the academic and professional standard required by the University as an education leadership portfolio for the degree of Doctor of Education.

Signed: _____

Jeffrey A. Lawson, Ed.D.
Member of education leadership portfolio committee

ACKNOWLEDGMENTS

Thank you to my adviser, Dr. Sharon Walpole, whose will for the completion of this project carried me when my own will faltered.

Thank you to my esteemed committee: Dr. Jeffrey Lawson for his steadfast commitment to my growth as a leader, Dr. William Lewis for his incisive feedback, and Dr. Lauren Bailes for being an awesome teacher, which is the highest praise I can offer a person.

Finally and ultimately, thank you to the lineage of women who have contributed to this accomplishment. Across generations, they have channeled their righteous fury into fierce love for their daughters, and like alchemists, transformed scarcity into abundance.

TABLE OF CONTENTS

LIST OF FIGURES viii
LIST OF TABLES vii

ABSTRACT ix

Chapter

1 INTRODUCTION 1

Teacher Self-Efficacy 3
National Board Certification and Teacher Self-Efficacy 7
National Board Certification as a Model for Professional Learning Communities 11
Organization Context 15
Organizational Role 21

2 PROBLEM ADDRESSED 28

3 IMPROVEMENT STRATEGIES 32

Artifact Narrative 34

4 IMPROVEMENT STRATEGIES RESULTS 37

National Board Certification and Teacher Self-Efficacy 37
Development of the PLC Pilot 37
Implementation of the PLC Pilot 42
Results of Survey and Observation Tool 43

5 REFLECTION ON IMPROVEMENT STRATEGIES 50

6 REFLECTIONS ON LEADERSHIP DEVELOPMENT 58

Growth as a Scholar 58
Growth as a Problem Solver 59
Growth as a Leader 60
Final Thoughts 63

REFERENCES 64

Appendix

A LITERATURE REVIEW TEACHER EFFICACY 71
B LITERATURE REVIEW: NATIONAL BOARD CERTIFICATION..... 95
C TEACHER PROFESSIONAL LEARNING SURVEY..... 120
D PROFESSIONLA LEARNING MODEL..... 122
E PRESENTATION TO EXECUTIVE DIRECTORS 127
F SCHOOLOGY MODULE..... 129
G PLC OBSERVATION TOOL..... 132
H SUMMARIZED ANALYSIS OF TEACHER PROFESSIONAL LEARNING SURVEY..... 147
I REVISED PROFESSIONAL LEARNING MODEL 158
J IRB/HUMAN SUBJECTS APPROVAL..... 167

LIST OF TABLES

Table 1 Secondary ELA MCAP Percent Proficient, Pre and Post Pandemic 19

Table 2 Proficiency Levels for Secondary ELA 2017 23

Table 3 EMS ELA Department 44

Table 4 Survey Results 47

LIST OF FIGURES

Figure 1 Conditions that Develop Collective Efficacy 7

Figure 2 National Board Certification as Professional Learning 11

Figure 3 Department of Education Services 16

Figure 4 Cecil County Schools Strategic Plan 17

Figure 5 Secondary ELA Five Year Plan 26

Figure 6 Current CCPS Professional Learning Model 29

Figure 7 Revised Professional Learning Structure 32

Figure 8 Professional Learning Cycle 40

Figure 9 Survey 41

Figure 10 PLC Observation Tool 43

Figure 11 PLC Observation Tool Part I 49

Figure 12 PLC Observation Tool Part II 50

ABSTRACT

Like many school districts, Cecil County Public Schools (CCPS) has historically taken a top-down approach to professional learning. Priorities for learning are established by executive leadership and administered through principals and content supervisors. Such an approach ignores the contexts that teachers work within, including years of experience, grade level, needs of students, and curriculum. Recent challenges, including learning loss from COVID 19 and budget restrictions, have interrupted professional learning. Furthermore, new legislation titled the Blueprint for Maryland's Future requires districts to implement a career ladder for teachers. To advance up the career ladder, teachers will need to achieve National Board Certification (NBC), a process that allows teachers to demonstrate their expertise in both content knowledge and pedagogy. Although research does not show a clear relationship between NBC and student learning, it has established a relationship between teacher self-efficacy (TSE) and student learning. Therefore, by providing professional learning experiences that build TSE, NBC may influence student learning indirectly.

This Education Leadership Portfolio (ELP) presents a professional learning model for CCPS schools that is aligned with the vision presented by the Blueprint for Maryland's Future, is informed by research on teacher efficacy, and incorporates the processes of National Board Certification. The design of the model was informed by research on professional learning communities (PLC), and the PLC model was piloted at

a CCPS middle school for teachers of English Language Arts. Results of this study suggest that teachers found the PLC model to be more relevant and impactful than traditional professional learning and that the PLC structure facilitated practices aligned with both the National Board of Professional Teaching Standards' Architecture of Accomplished Teaching and criteria for effective PLCs.

Chapter 1

INTRODUCTION

Cecil County Public Schools (CCPS) is one of Maryland's twenty-four school systems, and it is the only school system for Cecil County. Located in the northeast corner of Maryland and bordered by Delaware and Pennsylvania, CCPS comprises twenty-nine schools: seventeen elementary schools, six middle schools, and five high schools. During the 2022-2023 school year, 14,780 students were enrolled with CCPS.

Since I have been a CCPS employee, professional learning (PL) for teachers has followed a top-down, or traditional, approach. District leadership has established learning goals based on either external demands, like those posed by the Maryland State Department of Education (MSDE), or internal needs, as demonstrated by student data or voiced by staff members. District leaders present goals for PL to principals and instructional coordinators, who then develop learning experiences for teachers that align with the goals. At times, district leadership has provided packaged learning experiences that neither encouraged nor required modifications for implementation. For instance, when CCPS transitioned to the Common Core Standards (CCS), district leaders believed that teachers needed professional learning related to academic writing, a major emphasis of the CCS. To address this perceived need, they adopted a writing program through the University of Kansas which included intensive and scripted professional learning for all content teachers, grades K-12. When results for the first assessment aligned with the CCS

were released, CCPS scores ranked below most other Maryland districts, and the writing scores were particularly abysmal, in spite of the significant investment that CCPS had made in providing PL related to writing.

With the exception of PL provided by instructional coordinators, secondary teachers have not received PL that aligns with the content that they teach. This means, for example, that science teachers receive limited PL on topics and curriculum related to science. Because PL goals have been determined at the district level, the topics tend to be inclusive, and therefore, generic.

Recent changes related to the COVID 19 pandemic and state politics have interrupted CCPS's traditional approach to PL. When teachers made the abrupt switch to virtual instruction, PL on pedagogy was replaced with PL on technology. Teachers had to quickly learn how to navigate learning management systems and video communications. Furthermore, teachers experienced heightened levels of emotional stress as many of their students struggled to engage in virtual learning. As a result, even experienced teachers suffered losses in self efficacy during the COVID 19 pandemic (Pressley& Ha, 2021). Meanwhile, new legislation, titled the Blueprint for Maryland's Future, introduced a vision of teacher leadership that included salary increases and reduced teaching schedules.

The Blueprint was initiated by the Kirwan Commission, a group of lawmakers and education leaders who assembled to evaluate and improve the Maryland Public School system. The Kirwan Commission partnered with the National Center for Education and the Economy (NCEE) to develop the Blueprint based on the practices of

high performing school systems worldwide. The Blueprint addresses losses in TSE by outlining a system that requires all teachers to "have a strong foundation in content and pedagogy and powerful incentives and supports to do their best work" (Blueprint, 2024). This system elevates the teaching profession through a career ladder that allows teachers to advance professionally without leaving the classroom. However, advancement is contingent upon achieving National Board Certification (NBC), a program that allows teachers to demonstrate their expertise in both content knowledge and pedagogy. Nationally Board Certified teachers will earn a $10,000.00 stipend annually and receive a reduced class schedule so that they can provide professional learning to their colleagues and work individually with students. Since the Blueprint legislation passed, teacher interest in NBC has increased significantly.

Given the structural and systemic changes mandated by the Blueprint, CCPS leaders have struggled to resurrect the PL structures that were in place prior to the pandemic. Rather than attempting to restore the top-down professional learning model, CCPS might consider how to reimagine PL in a manner that aligns with the Blueprint, NBC, and research on teacher self-efficacy (TSE).

Teacher Self- Efficacy

TSE is a construct that has implications for teacher performance and student achievement. Recent challenges, including the COVID-19 pandemic and culture wars that target educators, have exacerbated a steady decline in teachers' job satisfaction and the public's perception of the teaching profession (Kraft & Lyon, 2022). A national teacher shortage is raising concerns about levels of TSE and their impact on student

learning (Diliberti & Schwartz, 2023). Bandura (1995) defines efficacy as one's beliefs in one's "capabilities to organize and execute courses of action required to manage prospective situations" (p. 2). TSE can be conceptualized as having two dimensions: general teacher efficacy (GTE) and personal teacher efficacy (PTE). Personal teacher efficacy refers to a teachers' confidence in their own skills and abilities to advance student learning, while GTE refers to teachers' focus on the factors of learning that they can influence as opposed to those factors outside of their control, like students' socioeconomic status (Choong et al., 2019). TSE encompasses both PTE and GTE, shaping teachers' outcome expectations, which are based upon the judgements they make about what they can accomplish. Therefore, self-efficacy beliefs affect teachers' motivation, performance, and emotional responses (Bandura, 1994). Teachers who believe in their abilities to improve student learning are motivated, flexible, and resilient. In contrast, teachers with low levels of TSE are less committed to student learning and more likely to blame poor results on factors beyond their control (Bandura, 1993).

Efficacy levels are self-perpetuating, both individually and collectively. Teachers with strong efficacy beliefs establish high goals and persevere through challenging tasks. Failures become learning experiences as teachers engage in reflection and develop resilience, ultimately reinforcing their TSE (Bandura, 1993; Saracoglu, 2022). When teachers with strong self-efficacy beliefs are given opportunities to lead and support their colleagues, individual efficacy can engender collective efficacy, or "a group's shared belief in its conjoint capabilities to organize and execute the course of action required to produce given levels of attainment" (Bandura, 1997, p. 477).

Because collective teacher efficacy may be a better predictor of student achievement than even socioeconomic status, it is important that educational leaders understand how they can develop TSE (Bandura, 1997). Both Dinçer (2021) and Goroshit and Hen (2014) claim that teachers may possess qualities, like communication skills, achievement goals, and emotional self-efficacy, which can be predictors of high efficacy beliefs. However, Bandura (1997) has shown that TSE can be developed through mastery experiences, vicarious experiences, social persuasion, and affective states. Of these constructs, mastery experiences, or performance accomplishments, are particularly impactful because "strong efficacy expectations are developed through repeated success" (Bandura, 1977, p. 195). According to Choong, et al. (2019), "teachers who trust in their principal will also have stronger belief in their self-efficacy to perform their tasks." Therefore, leaders who intentionally build trusting relationships may provide opportunities for teachers to experience mastery in their practice. Likewise, leaders might create opportunities for social persuasion, which influences efficacy through suggestion, vicarious experience, which influences efficacy through live and symbolic modeling, and affective states, which influences efficacy through emotional arousal, especially positive feedback and emotional support (Bandura, 1977). Leadership behaviors that are aligned with Bandura's constructs may develop and sustain TSE.

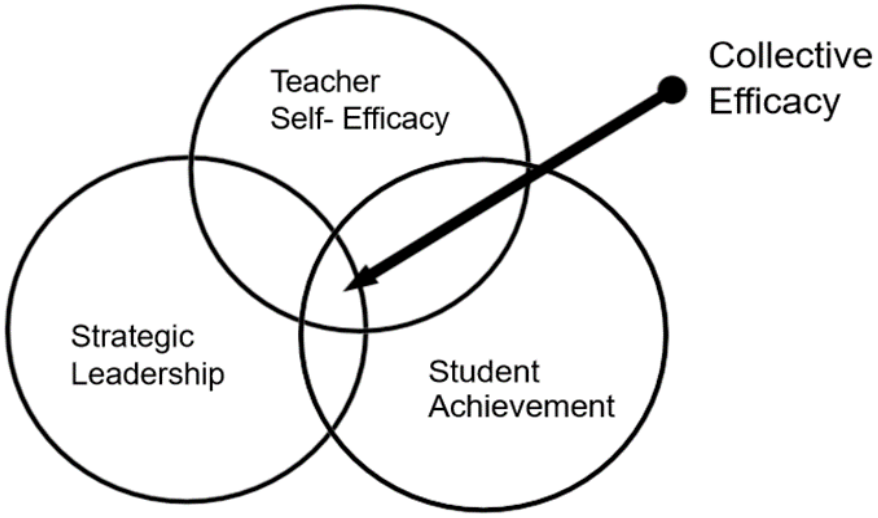
Specific leadership styles create environments that build trust and provide opportunities for mastery experiences (Kılınç et al., 2021; Choong, et al., 2019; Engin, 2020; Cansoy & Parlar, 2018). For example, both transformational and instructional leadership styles are distributive, or collaborative (Engin 2020). To effectively distribute

leadership responsibilities among stakeholders, transformational and instructional leaders align school goals with teachers' learning needs. Moreover, instructional leaders leverage alignment and collaboration to improve student learning outcomes (Cansoy & Parlar, 2018). Involving teachers in leadership activities that improve student learning can lead to mastery experiences. In fact, Kılınç, et al. (2021) and Engin (2020) found that distributive leadership styles are correlated with higher levels of TSE.

Distributive leadership can be operationalized through PL experiences. Yoo (2016) and Yang (2019) found that PL can increase TSE when it is voluntary and aligned with teachers' learning needs. However, to incorporate social persuasion and vicarious experiences, PL should also be collaborative (Chong & Kong, 2012; Çoban et al., 2020; Goddard et al., 2015; LoCasale-Crouch et al., 2012). When teachers collaboratively engage in content that is aligned with their learning needs in a supportive environment, they develop TSE as individuals and, over time, collective efficacy as a community of learners. Therefore, leaders who build individual teacher efficacy and provide opportunities for PL that is both self-directed and collaborative may be cultivating a sense of collective efficacy, which has been proven to impact student achievement. Figure 1 represents the potential relationships between TSE, student achievement, and strategic leadership. It is the potential synergy in collective efficacy that drives this project.

Figure 1

Conditions that Develop Collective Efficacy



National Board Certification and Teacher Self-Efficacy

The National Board for Professional Teaching Standards (NBPTS) is an independent, nonprofit organization, established in 1987 by the Carnegie Forum on Education and the Economy (National Board for Professional Teaching Standards, 2023). To earn NBC, teachers must demonstrate content knowledge through a computer-based assessment and demonstrate their knowledge of content and practice by completing portfolio entries. In Maryland, recent legislation titled The Blueprint for Maryland's Future has established a career ladder for teachers based on the achievement of National Board Certification (Maryland Public Schools, 2023). Given the research on NBC, one might question why this process has been elevated and prioritized by the Blueprint.

Research on the impact of NBC on student achievement has yielded mixed results. According to the What Works Clearinghouse (WWC), a source of scientific evidence that uses rigorous research standards, thirty-eight eligible studies on NBC do not meet the WWC group design criteria (U.S. Department of Education). However, a quasi-experimental study by Cowan and Goldhaber (2016) found positive and significant relationships between NBC and student achievement. Furthermore, several qualitative studies suggest that the NBC process improves teachers' perceptions of their practice and beliefs about their impact on student learning. (Jaquith et al., 2016; Lustick, 2011; Park et al., 2007; Petty et al., 2016; Sullivan, 2010). However, according to Petty et al. (2016), improved teacher practice does not necessarily translate to improved student learning outcomes.

Although research does not show a clear relationship between NBC and student learning, it has established a relationship between teacher self-efficacy (TSE) and student learning (Eels, 2011). Therefore, by providing PL experiences that build TSE, NBC may influence student learning indirectly. According to Bandura (1993) TSE can be developed through mastery experiences, vicarious experiences, social persuasion, and affective states. These elements are embedded within the NBC process (Jaquith et al., 2016; Lee et al., 2020; Lustick, 2011; Park et al., 2007; Sullivan, 2010).

Teachers pursuing NBC engage in vicarious experiences and social persuasion, building a sense of community that supports positive affective states. Both Jaquith et al. (2016) and Park et al. (2007) found that NBC shifted teaching from a private practice to a collaborative experience. While the NBC process is completed individually, many

schools and districts provide support for cohorts of candidates that includes opportunities for collaboration. Colleagues who embark on the NBC process together support one another as motivators, mentors, leaders, and human resources (Park et al., 2007). As teachers break out of the confines of their classrooms to observe and learn from one another, affective states may improve through safe transparency and a shared vision of student-centered instruction. Teachers experience success vicariously and benefit from social persuasion when they have opportunities to observe one another and provide feedback (Jaquith et al., 2016). In fact, Park et al. (2007) found that teachers pursuing NBC were sustained by a shared "belief that the NBC process would contribute to improving student learning" (p. 381).

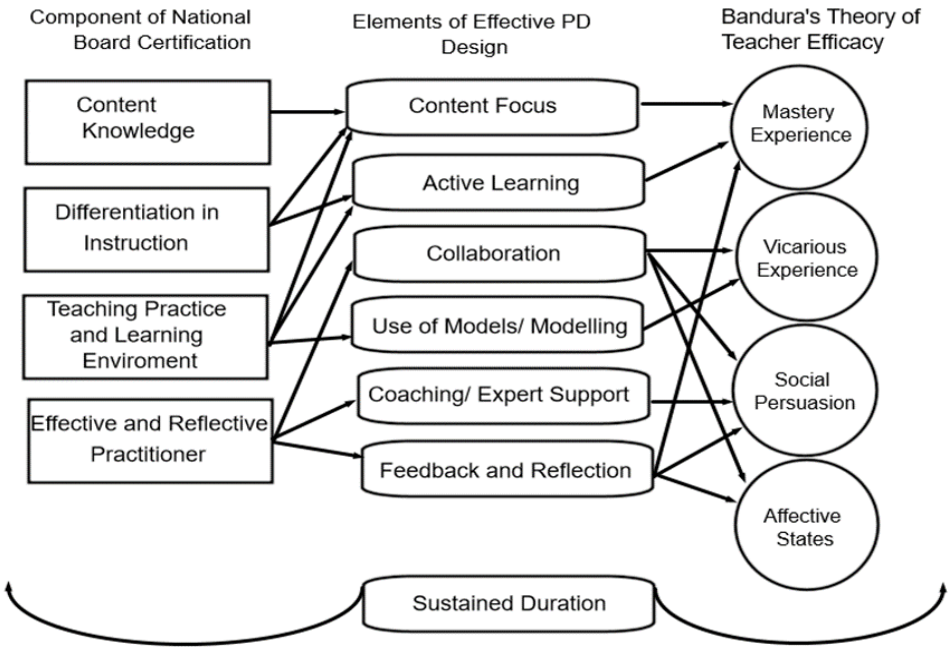
As teachers experience mastery in their practice, they strengthen their sense of self efficacy. PL that develops mastery is content focused and job embedded (Darling-Hammond et al. 2017; Lustick, 2011). This alignment between content and pedagogy is often called pedagogical content knowledge (PCK). PCK refers to a teacher's knowledge of content for the purpose of teaching, or "the ways of representing and formulating the subject that make it comprehensible to others" (Shulman, 1986, p. 8). NBC teachers develop and leverage their PCK to address students' learning needs, demonstrating mastery of both teaching procedures and content. The NBC process is illustrated by the Architecture of Accomplished Teaching (AAT), a blueprint that attempts to synthesize the complex and cyclical processes of teaching. The stages of the AAT are closely aligned with cycles of formative assessment, which include identifying learning needs, designing instruction, collecting evidence, evaluating learning, evaluating teaching, and

improving learning (Lee et al., 2020; Birenbaum et al., 2009; Wiliam, 2016). These cycles immerse teachers in student learning and provide mastery experiences as teachers learn through trial and error (Bandura, 1977). As candidates refine their instruction by reflecting on student learning, their confidence improves (Sullivan, 2010). The NBC process incorporates both the conditions necessary to develop teacher efficacy and the elements of effective PL design. I represent these relationships in Figure 2, which shows the connections between the NBC process, effective PL design, and TSE (Darling-Hammond et al. 2017; Bandura, 1977).

Through mastery experiences, effective collaborations, and improved school culture, teachers may increase their self-efficacy beliefs as individuals, and, over time, develop collective efficacy as faculties. Therefore, the NBC process provides PL experiences that have the potential to improve efficacy beliefs and have a positive impact on student achievement.

Figure 2

National Board Certification as Professional Learning



National Board Certification as a Model for Professional Learning Communities

Professional learning communities (PLCs) offer educators a model of PL that is both collaborative and job-embedded. Unlike traditional PL experiences, which focus on knowledge *for* practice, or solutions outside of teacher practice, PLCs focus on knowledge *of* practice, or solutions within teacher practice (Viesco et al., 2008). Knowledge for practice is generated by others, like scholars or consultants, whereas knowledge of practice is generated by the teachers themselves as they reflect upon the effectiveness of their practice. This knowledge is derived from content that is integral to a teacher's daily work, like student data and curriculum. In this way, PLCs align with the process of NBC. Both the PLC structure and the process of NBC establish the conditions

that develop TSE, including mastery experiences, vicarious experiences, social persuasion, and affective states (Bandura, 1997).

PLCs offer teachers an opportunity to develop mastery of practice. Teachers experience mastery by setting high goals and persevering through challenging tasks (Bandura, 1993). According to DuFour and Reeves (2016), teachers engaged in effective PLCs structure their work around four questions: What do students need to learn? How will their learning be assessed? How will we address what they have not learned? How will we meet the needs of students who have learned? (p. 70). Likewise, the National Board of Professional Teaching Standards presents the Architecture of Accomplished Teaching (AAT) to illustrate the reciprocal relationship between teaching and learning. Both DuFour and Reeves (2016) and the AAT emphasize the importance of assessment as a tool for measuring learning and designing instruction that advances learning. Likewise, Aylsworth (2012) found that PLCs are more likely to improve student learning when the content of the PLC is closely aligned with teachers' curriculum. Like the NBC process, PLC work activates and integrates the three sources of knowledge from which teachers pull: subject matter knowledge, PCK, and curricular knowledge, which encompasses grade and subject level programs and materials (Shulman, 1986, p. 9). According to Kind and Chan (2019) teachers with accurate content knowledge tend to develop strong PCK, which leads to teaching proficiency. Thus, when PLC work is aligned with curriculum and student learning, participating teachers may experience mastery as a result.

When teachers work in PLCs, they experience learning in an active and collaborative manner. According to Viesco et al. (2008), effective PLCs are collaborative, teacher-led, focused on student learning, and sustainable over time (p. 84). While both PLCs and the NBC process are grounded in student learning, PLCs are more collaborative than the NBC process; therefore, they provide opportunities for vicarious experiences and social persuasion (Aylsworth, 2012; DuFour & Reeves, 2016; Easton, 2015; Viesco et al., 2008). PLCs deprivatize teaching as teachers engage in reflective dialogue about how their instruction impacts student learning (Viesco et al.). Although Aylworth (2012) did not find a consistent relationship between the quality of PLCs and student learning, a Viesco et al. (2008) review of eleven PLC studies found that "the strength of the PLC accounted for 85% of the variance in achievement" (p. 87). However, Viesco et al. (2008) also found that teacher collaboration alone does not produce gains in student learning; rather, the collaboration must be structured and focused on student learning. Therefore, successful PLCs emulate the NBC process through alignment to curriculum and learning, yet they also expand on the NBC process through professional collaboration grounded in student learning.

School and district leaders can ensure effective teacher engagement in PLCs by providing structure and tools. To facilitate the implementation and maintenance of successful PLCs, leaders should establish enabling school structures (Aylsworth, 2012; Easton, 2015; Gray et al., 2013; Hipp et al., 2008). Both Gray et al. (2013) and Hipp et al. (2008) claim that structural considerations like regular meeting times, proximity, interdependent teaching schedules, and consistent communication must be in place to

support effective teacher collaborations. In fact, according to Aylsworth (2012), PLCs without these structures "will likely fail to experience the improved curriculum, assessment, and instruction that come with operating as a true PLC" (p. 83). In addition to logistical considerations, Hipp et al. (2008) point out that leaders should also provide teachers with the training, data, and processes that will empower them to innovate. Such leadership is "strong in direction and support, but empowering in ideas and implementation" (p. 191). This combination of structure and tools creates a foundation for teachers to operate according to their sense of passion and purpose, which may build efficacy through improved affective states (Bandura, 1997; Easton, 2015).

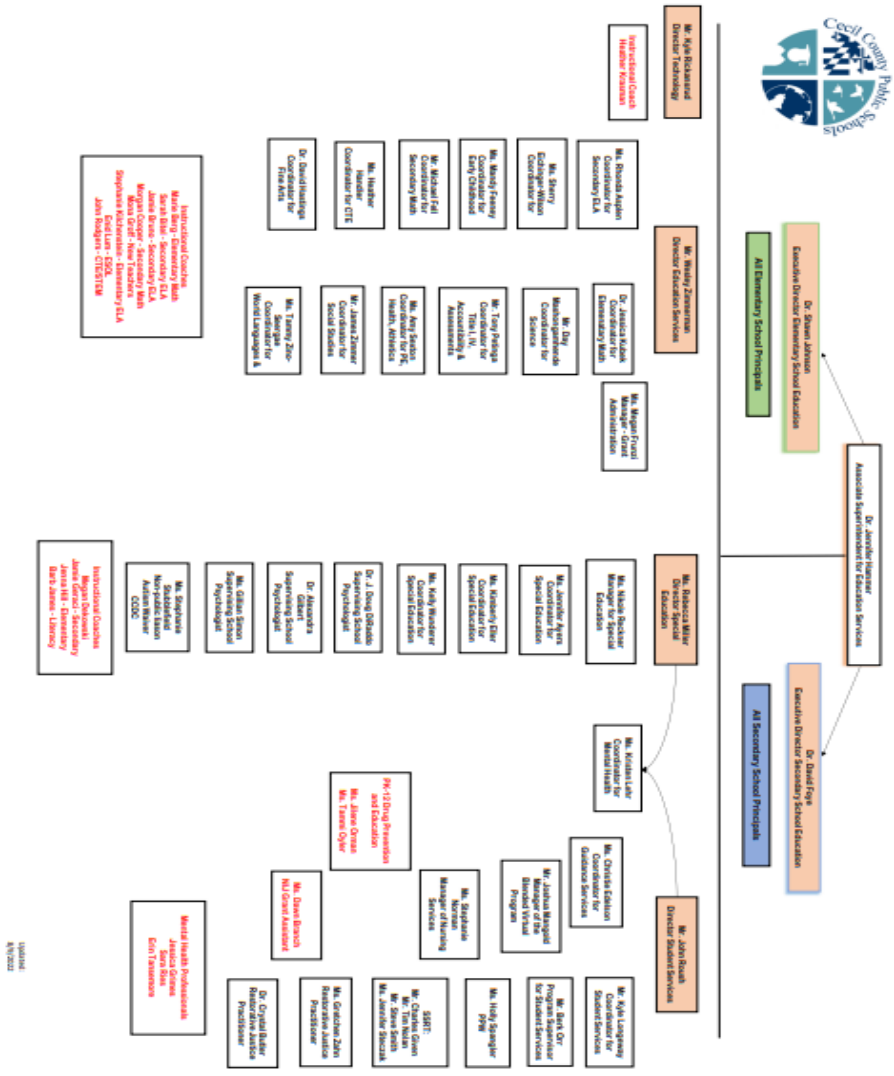
While the PLC concept might be ubiquitous among school systems, PLCs don't always align with characteristics that can advance student learning. According to DuFour and Reeves (2016), many leaders and teachers simply, "rename their traditional faculty or department meetings as PLC meetings, engage in book studies that result in no action, or devote collaborative time to topics that have no effect on student achievement — all in the name of the PLC process" (p. 69). However, by aligning PLC work with the processes of National Board Certification, leaders can provide PL experiences that build mastery through content, trust through structure, and confidence through collaboration.

Organizational Context

Under the direction of the CCPS Superintendent, the Department of Education Services (DOES) is led by the Associate Superintendent for Education Services. Two executive directors, one for elementary schools (Pre K-5) and one for secondary schools (6-12), supervise principals and assistant principals. The supervision of mid-ranking district leaders is distributed among the Director of Student Services, Director of Technology, Director of Education Services, and Director of Special Education. This hierarchy is represented in Figure 3.

Figure 3

Department of Education Services



In 2018, CCPS developed and adopted the Cecil County Public Schools Strategic Plan, which outlined its mission, values, strategic themes, and vision. This plan is illustrated in Figure 4.

Figure 4

Cecil County Public Schools Strategic Plan

In its mission statement, CCPS describes itself as a collaborative community dedicated to the needs of all learners. The word “learners” encompasses not just students, but all community members, including parents, teachers, and business owners. The third strategic theme, recruitment of a high-quality workforce, has become urgent since the COVID 19 pandemic, which exacerbated a nationwide teacher shortage (Diliberti & Schwartz. 2023). Likewise, the pandemic made it difficult for CCPS to maintain all of its stated values. Specifically, collaboration and high standards were difficult to maintain. During school closures from the spring of 2020 into the fall of 2021, school was conducted virtually to maintain social distancing. Both teachers and students abruptly transitioned from traditional classrooms to virtual learning environments. Many students struggled to engage in virtual learning. Therefore, teachers were directed to simplify

content, and district grading policies were modified to ensure that students were not denied grade level promotions during the altered learning conditions. Furthermore, pedagogy-focused PL was replaced with technology-focused PL. Teachers were required to complete hours of asynchronous PL on Schoology, the learning management system (LMS) that CCPS adopted at the beginning of the pandemic. Thus, as we navigated the strange new world of virtual learning, collaboration was limited and standards were lowered.

As we trudged into the 2021-2022 school year, returning teachers and students adjusted to full schedules and face-to-face learning. Some teachers chose to leave the profession. In Secondary English Language Arts (ELA), fifteen out of ninety-two teachers either resigned or took a leave of absence at the end of the 2021-2022 school year. Only nine of those teachers were replaced. After steady gains in student achievement on the Maryland Comprehensive Assessment Program (MCAP) from 2016-2019, we saw performance decline in both Mathematics and ELA in 2022. Table 1 shows pre and post MCAP data for Secondary ELA, grades 6-8 and 10. The ELA component of MCAP is aligned with the Maryland College and Career Readiness Standards (MCCRS) and has three parts—all require students to read grade level passages and respond to selected response items. Two of the units are performance tasks, one literary and one informational. For each performance task, students read two grade level passages and use evidence from the texts to respond to a prompt in a prose constructed response. Currently, CCPS is struggling with large class sizes and limited fiscal support. In 2023, for the third consecutive year, the Cecil County government chose to fund CCPS at maintenance of

effort, 88.5 million dollars, which is 5.5 million dollars below what the CCPS Board of Education requested to address overcrowded classrooms. Therefore, “high standards” and “collaboration” remain elusive values as CCPS continues to recover from losses in staff and in student learning with limited resources.

Table 1

Secondary ELA MCAP Percent Proficient, Pre and Post Pandemic

Grade	2019	2022
6	40.5	37.6
7	47.3	37.1
8	44.7	42.4
10	64.0	59.2

CCPS leaders hope that recent Maryland legislation, designed to bolster resources and transform structures in Maryland Public Schools, will mitigate losses in funding, learning, and staffing. The Blueprint for Maryland’s Future is based on the work of the Kirwan Commission, a group of stakeholders and lawmakers who developed policy recommendations that are guiding reforms in Maryland’s school districts. The Blueprint includes five pillars for transforming Maryland Public Schools: Early Childhood Education, High Quality and Diverse Teachers and Leaders, College and Career Readiness, More Resources to Ensure That All Students are Successful, and Governance and Accountability. The second pillar, High Quality and Diverse Teachers and Leaders, includes three strategies: raising teacher pay, improving teacher preparation programs,

and establishing a career ladder for teachers. The Kirwan Commission identified NBC as a resource for developing and retaining highly qualified teachers; therefore, NBC is the primary path for teachers to advance on the career ladder. NBC teachers will receive a $10,000 salary increase, with an additional $7000 for NBC teachers who work in low performing schools. Furthermore, NBC teachers will be assigned reduced teaching schedules so that they can engage in teacher leadership activities and provide more individualized support to struggling learners. According to the Blueprint timeline, the teacher career ladder must be implemented by July 2024 (Maryland Public Schools, 2023).

In anticipation of Blueprint mandates, more CCPS teachers are pursuing NBC. The total cost of NBC is $1900.00, which includes $475.00 for each of the four components. In the past, CCPS selected a few teachers to financially support through the NBC process. However, the Blueprint requires districts and MSDE to accept and support all teachers who wish to pursue NBC, with districts covering one third of the cost and MSDE covering the rest. Therefore, CCPS's teacher enrollment in the NBC process has increased substantially, from just 4 teachers during the 2021-2022 school year to 46 teachers in 2022-2023. Despite its rush to accommodate the influx of NBC candidates, CCPS's current approach to PL is not aligned with the Blueprint's vision of NBC and teacher leadership.

While the COVID 19 pandemic interrupted CCPS's Strategic Plan, especially in its core values of high standards and collaboration, the Blueprint for Maryland's Future provides an opportunity to reimagine PL, leveraging both the NBC process and teacher

leaders who wish to advance along the career ladder. While research on the impact of NBC on student learning has not yielded a clear causal relationship, research has confirmed a relationship between TSE and student achievement. By developing PL structures that incorporate the NBC process and encourage teacher leadership, CCPS may be able to bolster teachers' self-efficacy beliefs. Although the NBC process is an individualized process, the job embedded nature of NBC—the focus on "these students at this time" and the centering of teacher reflection as the catalyst for professional learning, are shifts that can be scaled to shape collective professional learning experiences (National Board for Professional Teaching Standards, 2023. Job embedded PL allows teachers to experience how PL influences the choices they make in the classroom, and when those changes have a positive impact on student learning, teachers feel a greater sense of efficacy. Improved efficacy beliefs may positively impact student performance.

Organizational Role

After seventeen years of teaching English Language Arts for Cecil County Public Schools (CCPS), I became the Instructional Coordinator for Professional Development: Secondary English Language Arts & Literacy. My work includes supervising curriculum and instruction and providing PL experiences for teachers. CCPS employs instructional coordinators for various content areas and grade levels. For example, in addition to my role as the coordinator for secondary English Language Arts (ELA), there is a coordinator for elementary ELA. Other coordinators supervise science, mathematics, social studies, career and technology, and fine arts. Coordinators generally work within silos, especially at the secondary level, where school-based schedules inhibit meaningful cross-

disciplinary collaboration around curriculum. Initially, I had a team of two instructional coaches, one to support high school and the other to support middle school, but recent budget cuts have reduced support to one coach who supports grades six through twelve. This lone coach is funded through a grant, which will expire at the end of the 23-24 school year.

When I first assumed this leadership role in 2017, our students' performance on the state adopted assessment for ELA in grades six through eight and in grade ten was significantly below state averages. Table 2 shows proficiency levels by grade for the spring 2016 assessments.

Table 2

Proficiency Levels for Secondary ELA 2016

Grade	CCPS Percent Proficient 2016	State Percent Proficient 2016
6	28.4	37.1
7	33.6	39.5
8	31.9	38.6
10	33.3	44.4

In contrast, student performance on the assessments for mathematics was at or above state averages. Therefore, the discrepancies in secondary ELA generated internal angst and external scrutiny. From 2014 through 2016, secondary ELA teachers implemented a concept-based curriculum that did not align with the three instructional shifts proposed by the Common Core Standards: regular practice with complex texts; text-based reading and writing; and building knowledge through nonfiction (Achievethecore.org). CCPS leaders believed that students had underperformed on the state-adopted assessments for secondary ELA because the curriculum did not prepare them for success. According to Steiner (2017), research confirms that curriculum choices have a significant and cumulative impact on student learning. Therefore, my task was to lead curriculum revisions and PL that aligned with the demands of the Common Core

Standards and the accompanying instructional shifts. During this time, I was supervised by the Executive Director for High School, Anne Gellrich, who also supervised school-based administrators. Ms. Gellrich prioritized literacy and ensured alignment between school and district initiatives. She provided consistent messaging between building and district leadership.

I developed a five-year plan (Figure 5) to coordinate a teacher-created curriculum grounded in complex texts and research-based practices. The CCPS elementary program had recently adopted Bookworms, a K-5 reading and writing curriculum grounded in research and designed for differentiation (Bookworms, 2023). One of Bookworm's authors, Dr. Sharon Walpole, co-authored a book on research-based strategies for literacy instruction at the secondary level. I used this book, *Cracking the Common Core*, to select a limited range of literacy strategies, including text sets, peer-assisted learning strategies, and reading guides, which would be integrated into lesson plans (Lewis, et al., 2014). By establishing criteria for text complexity, insisting on standards alignment, and integrating research-based strategies into lesson plans, I hoped to develop a curriculum in which "instructional materials exercise their influence on learning directly as well as by influencing teachers' instructional choices and behavior" (Chingos & Whitehurst, 2012, p. 4). Furthermore, by aligning with elementary curriculum, I predicted that students would benefit from the cumulative impact of research-based practices over time (Steiner, 2017).

This curriculum reform also upended the CCPS approach to PL. In the past, PL had been topic-focused and presented as enhancements to the curriculum. However, as

we integrated research-based strategies into the curriculum, PL content was derived from the curriculum. This alignment between PL and curriculum helped teachers learn to skillfully implement, and over time, innovate, the strategies. As a supervisor, I used teacher observations as opportunities to encourage and coach teachers on curriculum implementation. The informal data I gathered during observations informed the content that I provided on PL days and the learning partnerships that my instructional coaches formed with teachers. For instance, when I noticed a problem of practice across multiple classroom observations, I addressed it in district-wide professional learning. However, problems of practice that were specific to individual teachers were addressed through follow up sessions with an instructional coach.

After implementing the revised curriculum and PL models, student performance on the state adopted assessment improved. Tenth grade scores increased from 33.3% proficient in 2016 to 64% proficient in 2019, as presented in Table 1. However, our upward trend in the quality of teaching and learning was interrupted by the COVID-19 pandemic. During the school closures, PL halted and curriculum implementation suffered. My role shifted from strengthening a program through data analysis and informed revisions to making sure students earned passing grades. Our curriculum resources were diluted, simplified, and repackaged on a learning management system. During the faltering reopening of schools, my role narrowed to supervising teachers' tentative efforts to re-acclimatize students to social structures and academic work.

In 2023, CCPS continues grappling with shortages in fiscal and human resources. Because we cannot provide job-embedded PL, my role is limited to supervising

instruction through teacher observations. I cannot provide PL that addresses the needs that I observe; therefore, my role is still evaluative but no longer transformative. Complicating matters, supervision of coordinators was shifted from the Executive Director of High Schools to the Director of Education Services. Unlike Executive Directors, the Director of Education Services does not supervise school-based administrators. Therefore, alignment in priorities and messaging has suffered, along with the emphasis on literacy and PL.

Figure 5

Secondary ELA Five Year Plan

Vision for Secondary English Language Arts

2021-22

- Comprehensive, content rich, standards-aligned curriculum that integrates the processes of reading, writing, speaking, and listening and provides teachers with direction regarding planning (units, lessons) and text selection
- Common assessments used to measure student growth, drive instruction, and inform professional development
- All content teachers implementing productive literacy routines to support student reading and writing across disciplines
- Formative assessment used to adjust/differentiate county provided lesson plans
- Professional development focus: Teachers meeting in PLCs to analyze student work and create their own plans for professional development

2020-21

- Curriculum evaluation
- Continue adding to and organizing bank of student writing
- Continue search for fiction and nonfiction that is contemporary and complex
- Professional development focus: using formative assessment to adjust/differentiate county provided lesson plans

2019-20

- Continue creation and revision of model units/lessons, common assessments
- Continue adding to and organizing bank of student writing

- Continue search for fiction and nonfiction that is contemporary and complex
- Professional development focus: reading/writing instruction based on teacher responses and student data

2018-19

- Continue creation and revision of model unit/lesson plans, common assessments
- Continue adding to and organizing bank of student writing
- Continue search for fiction and nonfiction that is contemporary and complex
- Professional development focus: integrated writing instruction

2017-18

- Secondary ELA Scope and Sequence by grade level
- Clear grade bands for texts to ensure staircase of increasing complexity while searching for contemporary, engaging options
- Creation of model units, lesson plans, common assessments
- Revise SLOs
- Student friendly rubric
- Begin building bank of student writing
- Professional development focus: rubric for scoring AND *learning* (Culham); high yield, easy to implement literacy routines (Walpole, McKenna, Schmoker)

Chapter 2

PROBLEM ADDRESSED

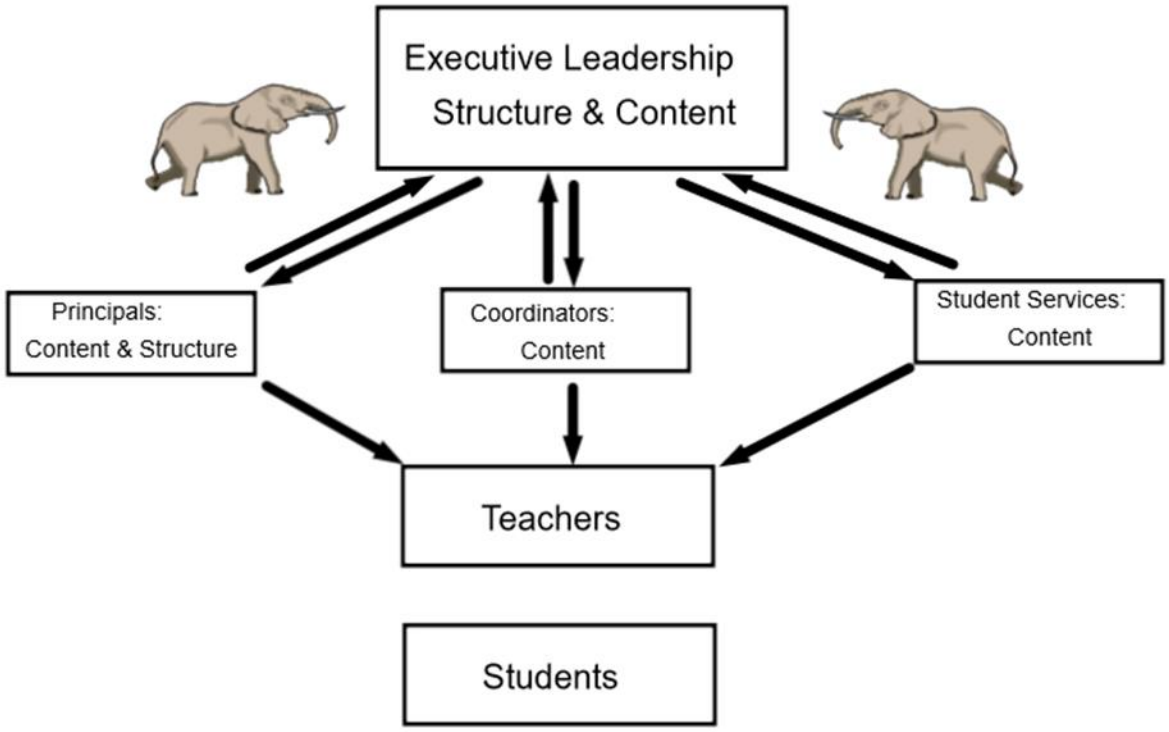
There is a significant disparity between the amount of PL time allotted to content specific learning versus the general topics offered by building principals and Student Services. In addition to three of the six full days, principals are expected to provide PL twice a month. It is suggested that principals align learning goals with school improvement plans and/or Student Services content, use student data, and collaborate with others (teachers, content coordinators) as they design PL. In contrast, content coordinators can plan, at most, three of the full PL days, and opportunities to provide voluntary PL before or after school. Significantly more time is allotted for PL that is required and unrelated to teachers' content areas, whereas time for content-focused PL is limited and often voluntary.

This plan is out of sync with Darling-Hammond et al. (2017), who found that effective PL is content focused and creates a "coherence for teachers, as opposed to having PD compete with differing school and district priorities" (p. 5). As illustrated in Figure 6, CCPS's current guidance for administrators sets the stage for competing initiatives that can result in an incoherent experience. For teachers, the experience of PL may be captured by the following African proverb: When elephants fight, it is the grass that suffers. The elephants represent the leaders who have competing initiatives, and the

grass represents teachers, who are trampled by PL that creates more work—work that may not even support them in advancing student learning.

Figure 6

Current CCPS Professional Learning Model



Although research indicates that PL experiences improve teacher self-efficacy when those experiences are voluntary and selected by the teachers based on their professional goals, the most common forms of PL are required by supervisors rather than teacher-selected (Yang, 2019). At the system level, barriers to effective PL include identifying teachers' learning needs, choosing effective PL approaches, implementing PL

with quality and fidelity, and evaluating the effectiveness of PL (Darling-Hammond et al. 2017, p. 21-22). All four of these barriers are evident in Cecil County Public School's (CCPS) approach to PL.

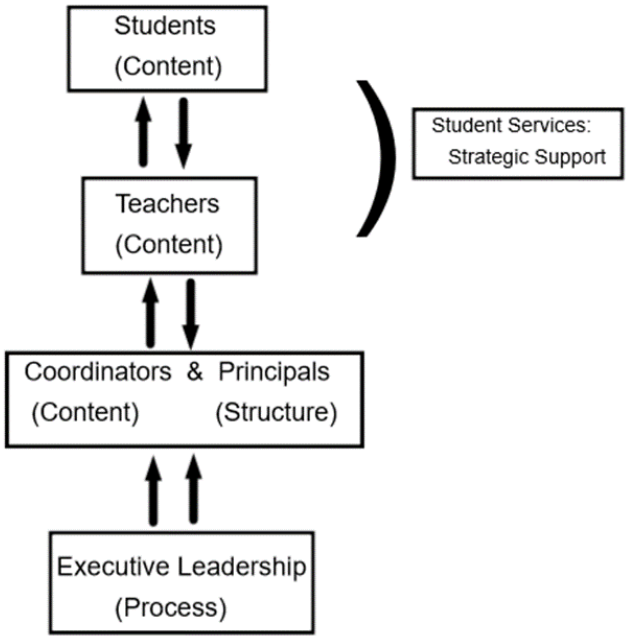
The purpose of this ELP is to develop and implement a new PL model for CCPS schools that is aligned with the vision presented by the Blueprint for Maryland's Future (specifically, Policy Area Two: High Quality and Diverse Teachers and Leaders), is informed by research on teacher efficacy, and incorporates the processes of National Board Certification. The Blueprint for Maryland's Future not only requires PL that is job-embedded and ongoing, but also aligned with curriculum materials (Cecil County Public Schools, 2023). Although this pilot will be limited to Secondary English Language Arts, the PL model is designed to meet the needs of teachers across grade levels and contents. Starting in third grade, teachers work in content-specific departments (ELA, mathematics, science, social studies, etc.). Figure 7 provides a model for PL that would be informed by student learning, operationalized by teachers, and supported by school and district leadership. In contrast with top down approaches to professional learning, which places district leadership at the top and students at the bottom, this model places students at the top. Teachers collaboratively engage in the analysis of student work and data to discern their own professional learning needs. Coordinators provide professional learning support that is aligned with the curriculum, and principals provide the structure, like common planning time, to support professional learning. Finally, instead of generating content from the top and pushing it down to teachers, executive leadership

establishes the process through which professional learning content is generated based on the needs of students.

From grades three through twelve, priority would be given to PL that is content focused, grounded in common assessments, and experienced through the process of collaborative inquiry. Following the guidance in the Architecture of Accomplished Teaching, PL should "aim at cultivating an assessment culture in school so that inquiry becomes a 'habit of mind' that plays a leading role in the quest for improvement (Birenbaum et al., 2009, p. 140). At the secondary level (grades six through twelve) this will require restructuring time allotted for PL from two full days of "sit and get" to a PLC structure that allows for ongoing action research and collaboration. The PLC structure provides the structure necessary to shift from PL that is top-down, generic, and sporadic to PL that is collaborative, job-embedded, and aligned with student learning needs. According to Bandura's (1977) notions of mastery experiences, vicarious experiences, social persuasion, and affective states, this shift may establish the conditions that develop TSE.

Figure 7

Revised Professional Learning Structure



Chapter 3

IMPROVEMENT STRATEGIES

To achieve the goal of restructuring the CCPS model for PL, I will follow a Plan, Do, Study, Act model of organizational change (Keleman, 2003). In the planning stage, I will research both the National Board Certification process and the construct of teacher efficacy to determine whether the NBC process might be leveraged to improve teacher efficacy. Building on this research, I will explore models of effective PL and professional learning communities (PLCs) to develop a structure that incorporates NBC processes and builds teacher efficacy. Using this research, I will develop a PLC model. Next, I will use my research to develop a presentation for CCPS executive leadership that argues the need

for a PLC model that aligns with NBC, builds teacher efficacy, and ultimately, prepares CCPS for the Blueprint's mandated changes. Upon receiving the support of executive leadership, I will select a school to pilot the PLC model during the 2023-2024 school year. I will also develop a module in Schoology, the LMS used by CCPS, that establishes the content and structure of the PLC model for teacher access and accountability. To evaluate the PLC pilot, I will develop a teacher survey to analyze teachers' perceptions of how the current PL aligns with the NBC process and the conditions that develop teacher efficacy compared to the pilot PLC.

As I move into the "Do" stage of this process, I will collaborate with the principal and ELA department of the selected school to establish the norms and expectations required to implement the PLC model. As teachers implement the PLC model throughout the school year, I will monitor implementation by attending PLC meetings and observing activity in the Schoology module. During these visits, I will record my observations on a tool that incorporates both the DuFour and Reeves (2016) criteria for effective PLCs and the NBPTS's Architecture of Accomplished Teaching. I will also train my instructional coach to use the observation tool and ensure that she observes at last one PLC session. Throughout the pilot, I will provide support and resources as necessary to maintain teachers' participation in the PLC model as intended.

At the "Study" stage of the process, I will compare the pre-pilot survey data with the post-pilot survey data. Finally, I will use the survey results to refine the PLC model in preparation for department-wide implementation (Act), which would occur the following year.

Artifact Narrative

Artifact 1: Literature Review: Teacher Efficacy

This artifact aims to understand the relationship between student achievement and teacher efficacy and identify the conditions that develop teacher efficacy. This research will inform my evaluation of CCPS's current PL model and the design and implementation of a proposed PL model.

Artifact 2: Literature Review: National Board Certification

This artifact builds on artifact one to explore the impact of the NBC process on both student achievement and teacher efficacy. In my conclusion, I argue that by providing PL experiences that develop teacher efficacy, National Board Certification may influence student learning indirectly.

Artifact 3: Teacher Professional Learning Survey (Pre- and Post-implementation)

For this artifact, I have designed a ten-question survey designed to evaluate teachers' perceptions of PL before and after implementation of the proposed PL model. Each question is strategically aligned with both the NBC's Five Core Propositions and Bandura's (1997) conditions for developing TSE. Therefore, survey results will indicate the extent to which the current CCPS PL model aligns with the NBC process and with conditions that develop teacher efficacy as compared to the proposed model.

Artifact 4: Professional Learning Model

This artifact builds on the research presented in the first two artifacts. It outlines a PL model that is based on the Architecture of Accomplished Teaching (AAT) from the National Board for Professional Teaching Standards, research on teacher self-efficacy

(TSE), and the work of DuFour and Reeves (2016), who suggest structuring PLC work around the following four questions: 1. What do students need to learn? 2. How will their learning be assessed? 3. How will we address what they have not learned? 4. How will we meet the needs of students who have learned? This model provides a five stage, cyclical process to guide teachers' work in PLCs. It will inform the development of a Schoology module that will structure, support, and document PLC activities.

Artifact 5: Presentation to Executive Directors

This artifact incorporates research from the first two artifacts to establish the importance of TSE, suggest connections between the NBC process and TSE, and argue for developing a model of PL that provides the conditions for developing TSE and incorporates the NBC process through PLCs. This artifact also suggests that the proposed PL model will support CCPS in meeting the requirements of the Blueprint for Maryland's Future, which positions NBC as a path for advancement on the teacher career ladder.

Artifact 6: Schoology Module

This artifact operationalizes Artifact 4 and aims to provide teachers participating in the proposed PL model with the content and structure they will need to move through the five stages of the PLC process. The module will include a timeline and template to structure the PLC work, resources for evidence-based practices to support teachers' learning goals, and spaces where teachers can submit work that documents their progress. The module will serve to organize all the content on evidence-based practices that the Secondary ELA department has generated over the past five years in a manner that allows

teachers to self-select content that aligns with their own PL goals as evidenced by student data. This aligns with Component 4 of the NBC process, which claims that accomplished teachers seek PL experiences that measurably improve their students' learning (National Board for Professional Teacher Standards, 2023).

Artifact 7: PLC Observation Tool

This artifact builds on artifacts 2 and 4. It will incorporate both the NBPTS's Architecture of Accomplished Teaching and the DuFour and Reeves (2016) criteria for effective PLCs into an observation tool. The purpose of this artifact will be to monitor the productivity of PLC work based on the alignment of teachers' interactions with the observation tool criteria. Most observations will be completed by me, but an instructional coach will also observe one of the sessions. Alignment with the tool will indicate the extent to which teachers are using student learning as the impetus for their own learning.

Artifact 8: Summarized analysis of Teacher Professional Learning Survey, Pre and Post implementation

This proposed artifact builds on Artifact 3 and will provide a summary of teacher responses to the PL survey, pre and post implementation of the proposed PL model. In my analysis, I will evaluate the model based on teachers' responses and consider implications for district-wide implementation.

Artifact 9: Revised Professional Learning Model

This proposed artifact incorporates data from artifact 3 and my analysis in artifact 9. Based on the data and my analysis, I will develop a revised PL model that addresses the successes and challenges experienced during the implementation of the pilot.

Chapter 4

IMPROVEMENT STRATEGIES RESULTS

Using the strategies described in Chapter 3, I researched, designed, and implemented a PLC structure aligned with Blueprint requirements and the National Board Certification (NBC) process during the first and second marking periods of the 2023-2024 school year.

National Board Certification and Teacher Self-Efficacy

During the planning stage of this study, I researched the NBC process and the construct of teacher self-efficacy (TSE) to determine whether research suggested that a professional learning model aligned with the NBC process might improve teacher self-efficacy. My research revealed that the tested components of NBC--Content Knowledge, Differentiation in Instruction, Teaching Practice and Learning Environment, and Effective and Reflective Practitioner--engaged teachers in practices that aligned with Bandura's theory of teacher self-efficacy. Therefore, leaders can consider the NBC process as a framework when designing professional learning. This is a shift from traditional professional learning (PL), in which leaders select content for teachers and expect the content to influence teacher practice, to a job-embedded process in which teachers analyze student learning data and explore content that may help them meet their students' learning needs.

Development of PLC Pilot

While many teachers who pursue NBC participate in candidate support groups, the process itself is mostly individual. Teachers work within the confines of their own

classrooms to analyze student learning and reflect upon their practice. Research on the qualities of effective professional learning and Bandura's notions of vicarious experiences and affective states suggest that collaborative professional learning can develop TSE and improve teacher practice (Bandura, 1977, Darling-Hammond et al., 2017). Therefore, I leaned on the work of DuFour and Reeves (2016) to develop a professional learning community (PLC) that integrated the NBC process as represented in the Architecture of Accomplished Teaching. The resulting PLC structure is organized into marking period cycles that alternate between collaborative planning and independent application. The collaborative PLC sessions (stages 1 and 3) include data analysis, collaborative planning, and identification of professional learning needs. During independent application (stages 2 and 4), teachers implement the lessons and receive the professional learning that they requested in their preferred format. This process is represented in Figure 8.

Figure 8

Professional Learning Cycle

Cycle 1

Stage 1	Collaboration (2 hours) • Data analysis • Preview upcoming unit and identify challenges • Plan differentiated activities • Request professional learning

Stage 2	Independent Application
	• Teach lessons
	• Embedded professional learning (1 hour)
	  ○ Presentation at department meeting
	  ○ Session with a coach
	  ○ Resources I can explore on my own

	○ Observation and feedback
Stage 3	Collaboration (2 Hours) • Student work analysis • Review and adjust upcoming plans • Request professional learning
Stage 4	Independent Application • Teach lessons • Embedded professional learning (1 hour) ○ Presentation at department meeting ○ Session with a coach ○ Resources I can explore on my own ○ Observation and feedback

I developed a ten-question survey (Appendix C) to evaluate teachers' perceptions of PL before and after implementation of the PL model in this project. The survey was given to the seven teachers who participated in the pilot. Survey items were aligned with both the Five Core Propositions of the National Board for Professional Teaching Standards (NBPTS) and Bandura's (1997) conditions for developing TSE. This alignment is represented in Figure 9.

Figure 9

Survey

NBPTS: 5 Propositions	Bandura: Teacher Self-Efficacy
1. Proposition 1: Teachers are committed to students and their learning. 2. Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students. 3. Proposition 3: Teachers are responsible for managing and monitoring student learning. 4. Proposition 4: Teachers think systematically about their practice and learn from experience.	A. Mastery Experiences B. Social Persuasion C. Vicarious Experiences D. Affective States

5. Proposition 5: Teachers are members of learning communities.	

Survey Questions:

1. Professional learning provided by Cecil County Public Schools improves my instruction. (1, 2, 3, 4, A, D)
2. Professional learning provided by Cecil County Public Schools improves student learning. (1, 2, 3, 4, A, D)
3. Professional learning provided by Cecil County Public Schools is aligned with the content I teach. (2, A)
4. Professional learning provided by Cecil County Public Schools improves my understanding of the content I teach. (2, A)
5. Professional learning provided by Cecil County Public Schools incorporates my current students' learning data, both formative and summative. (1, 3)
6. Professional learning provided by Cecil County Public Schools involves sustained collaboration with other teachers who share my content and/or students. (5, B, D)
7. Professional learning provided by Cecil County Public Schools includes opportunities for me to observe my colleagues. (5, B, C)
8. Professional learning provided by Cecil County Public Schools includes models of effective instruction. (2, C)
9. Professional learning provided by Cecil County Public Schools includes opportunities for me to receive feedback on my practice. (5, B, D)
10. Professional learning provided by Cecil County Public Schools allows time for me to reflect upon the impact of my instruction on student learning. (1, 3, 4, A)

Additionally, I developed an observation tool (Appendix G) that incorporated both the NBPTS's Architecture of Accomplished Teaching and the DuFour and Reeves (2016) criteria for effective PLCs. The purpose of this work was to monitor the productivity of PLC work based on the alignment of teachers' interactions with concepts from both sources. The content of the observation tool is captured in Figure 10.

Figure 10

PLC Observation Tool

Part I	Part II
A. Does the work of the PLC reflect the Architecture of Accomplished Teaching? Check all that apply. • Your Students: Who are they? Where are they now? What do they need and in what order do they need it? • Set high, worthwhile goals appropriate for these students, at this time, in this setting. Implement instruction designed to attain those goals. • Evaluate student learning in light of the goals and the instruction. • Reflect on student learning, the effectiveness of the instructional design, particular concerns, and issues. • Set new high and worthwhile goals that are appropriate for these students at this time. B. Capture specific behaviors that align with the items checked above.	A. Does the work of the PLC reflect DuFour and Reeves's (2016) central tenets of the PLC process? Check all that apply. • Work together in collaborative teams rather than in isolation and take collective responsibility for student learning. • Establish a guaranteed and viable curriculum that specifies the knowledge, skills, and dispositions students are expected to acquire, unit by unit. • Use an assessment process that includes frequent, team-developed, common formative assessments based on the guaranteed and viable curriculum. • Use the results of common formative assessments to identify students' learning needs (additional support and/or enrichment) • Use the results of common formative assessments to evaluate strengths and weaknesses in teaching. • Create a system of interventions that guarantees that students who struggle receive additional time and support in ways that do not remove them from new direct instruction, regardless of the teacher to whom they have been. B. Capture specific behaviors that align with the items checked above.

Implementation of PLC Pilot

I selected one of the district's six middle schools for participation in the PLC pilot. The English Language Arts (ELA) department at Elkton Middle School includes seven teachers, two sixth grade teachers, two seventh grade teachers, two eighth grade teachers, and one multi-grade teacher. These teachers represent the range of teaching experience in the larger district-wide Secondary ELA department: conditional certification, non-tenured, and tenured. Information about the EMS ELA department is summarized in Table 3.

Table 3

EMS ELA Department

Teacher	Grade	Gender	Experience	Tenure Status
1	8	F	22	T
2	8	F	16	T
3	6, 7, 8	F	14	T
4	7	F	6	NT
5	6	F	3	T
6	7	F	2	NT
7	6	F	1	Conditional

The scope of this work provided time for two full PLC cycles. Collaborative sessions (Stages 1 and 4) were held between August 30, 2023 and January 26, 2024. I administered the survey during the first and last PLC sessions, and I used the PLC observation tool to collect descriptive data as teachers worked. All seven teachers attended the four collaborative sessions. As I observed, I used the PLC observation form to document practices and interactions that aligned with both the NBPTS's Architecture of Accomplished Teaching and the DuFour and Reeves (2016) criteria for effective PLCs. After checking off the observed criteria, I described the practice or interaction in a space for notes. For example, after checking the criteria "Reflect on student learning, the effectiveness of the instructional design, particular concerns, and issues" I added a quote from a teacher as evidence. Teacher collaborations always included analysis of student data, planning, and requests for professional learning. After the collaborative sessions, I reviewed teachers' professional learning requests and provided resources based on their preferred format (Presentation at department meeting, Session with coach, Resources I can explore on my own, or Observation and feedback).

Results of Survey and Observation Tool

The results of the survey and observation tool are summarized in appendices G and F. Overall, survey results suggested that respondents found the PLC model to be more relevant and impactful than traditional PL. Furthermore, data collected using the observation tool suggest that the PLC structure facilitated teacher practices aligned with

both the NBPTS's Architecture of Accomplished Teaching and the DuFour and Reeves (2016) criteria for effective PLCs.

Survey results were aggregated to describe the frequency of responses by item. Survey results show that the most visible differences in teachers' perceptions of the traditional and pilot PL models were related to NBC propositions 1-4 and Bandura's notion of mastery experiences. Propositions 1-4 describe teacher attitude (committed to students and their learning), capacity (know the subjects they teach and how to teach them) and practice (responsible for managing and monitoring student learning, think systematically about their practice and learn from experience).

Survey results also show some difference in teachers' perceptions of the traditional and pilot PL models related to NBC proposition 5 and Bandura's notion of social persuasion. While more teachers indicated that the pilot PL provided opportunities for collaboration than traditional PL, there is less variation in reports of opportunities to observe colleagues and opportunities to receive feedback on practice. Although the structure of the PLC sessions required collaborative data analysis and planning, peer observations and feedback on practice were offered as optional PL experiences. Teachers did not pursue these opportunities. Survey results are presented in Table 4.

		Always		Usually		Sometimes		Never	
		Traditional	Pilot	Traditional	Pilot	Traditional	Pilot	Traditional	Pilot
1	Professional learning provided by Cecil County Public Schools improves my instruction.	1	5	2	2	4	0	0	0
2	Professional learning provided by Cecil County Public Schools improves student learning.	1	3	0	3	6	0	2	0
3	Professional learning provided by Cecil County Public Schools is aligned with the content I teach.	1	6	3	1	2	0	0	0
4	Professional learning provided by Cecil County Public Schools improves my understanding of the content I teach.	1	3	0	4	5	0	1	0
5	Professional learning provided by Cecil County Public Schools incorporates my current students' learning data, both formative and summative.	1	4	0	2	3	1	3	0
6	Professional learning provided by Cecil County Public Schools involves sustained collaboration with other teachers who share my content and/or students.	1	5	2	2	3	0	1	0
7	Professional learning provided by Cecil County Public Schools includes opportunities for me to observe my colleagues.	1	0	0	2	1	2	5	3
8	Professional learning provided by Cecil County Public Schools includes models of effective instruction.	1	4	2	3	3	0	1	0
9	Professional learning provided by Cecil County Public Schools includes opportunities for me to receive feedback on my practice.	1	2	1	3	1	1	4	1
10	Professional learning provided by Cecil County Public Schools allows time for me to reflect	1	6	1	1	5	0	0	0

	upon the impact of my instruction on student learning.								

Table 4

Survey Results

Teachers' reluctance to observe one another and/or receive feedback on their practice is also reflected in their responses to items aligned with Bandura's notion of vicarious experiences and affective states. The professional learning request form presented options for professional learning that included classroom observations and/or content presented at department meetings. Teachers preferred to observe presentations at department meetings, like symbolic models of instruction, rather than being observed and receiving feedback. For example, during the October PLC session, teachers observed as I modeled an annotating strategy. They did not then choose to implement that strategy during a scheduled observation for feedback. This may indicate that teachers are more receptive to observing rehearsed models of instruction than observing or being observed by peers in an authentic classroom setting.

The PLC observation tool provided insight into teachers' practices during the five PLC sessions and the extent to which their practices aligned with the Architecture of Accomplished Teaching and DuFour and Reeves's (2016) central tenets of the PLC process. Data collected using the observation tool is summarized in Figures 12 and 13.

Figure 11

PLC Observation Tool Part 1

Part I: Does the work of the PLC reflect the Architecture of Accomplished Teaching?

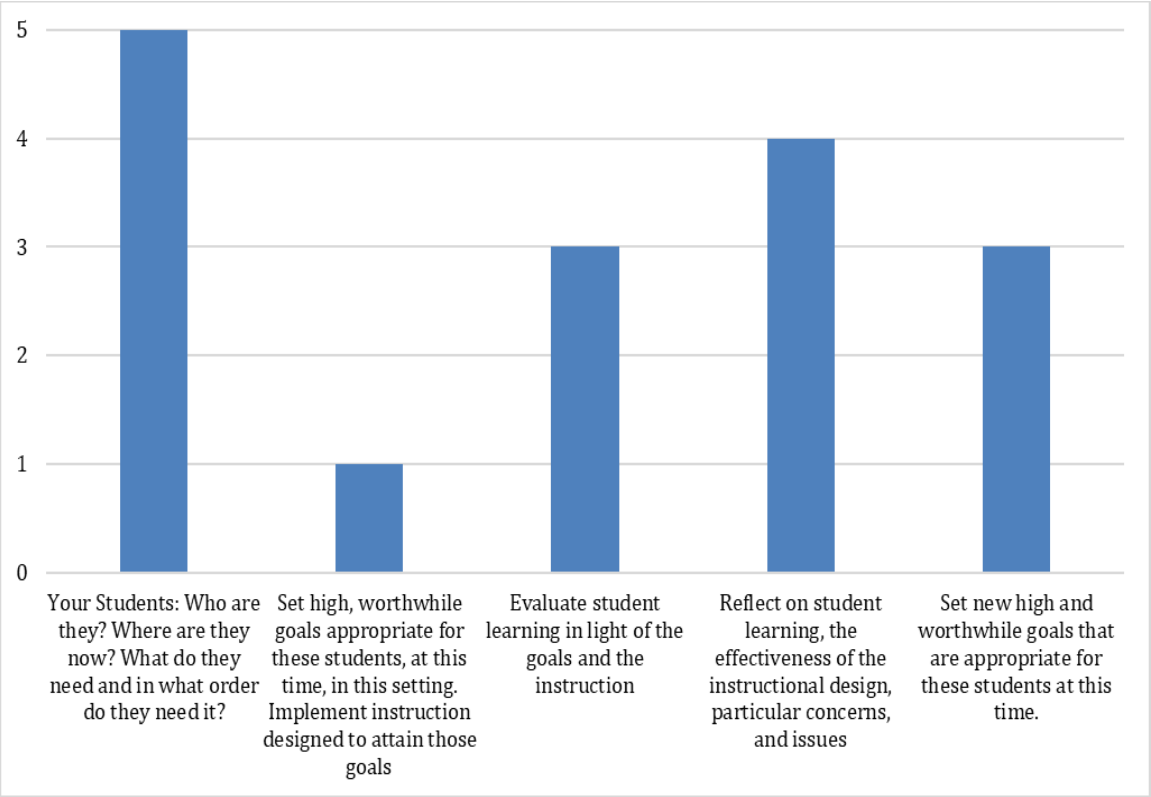
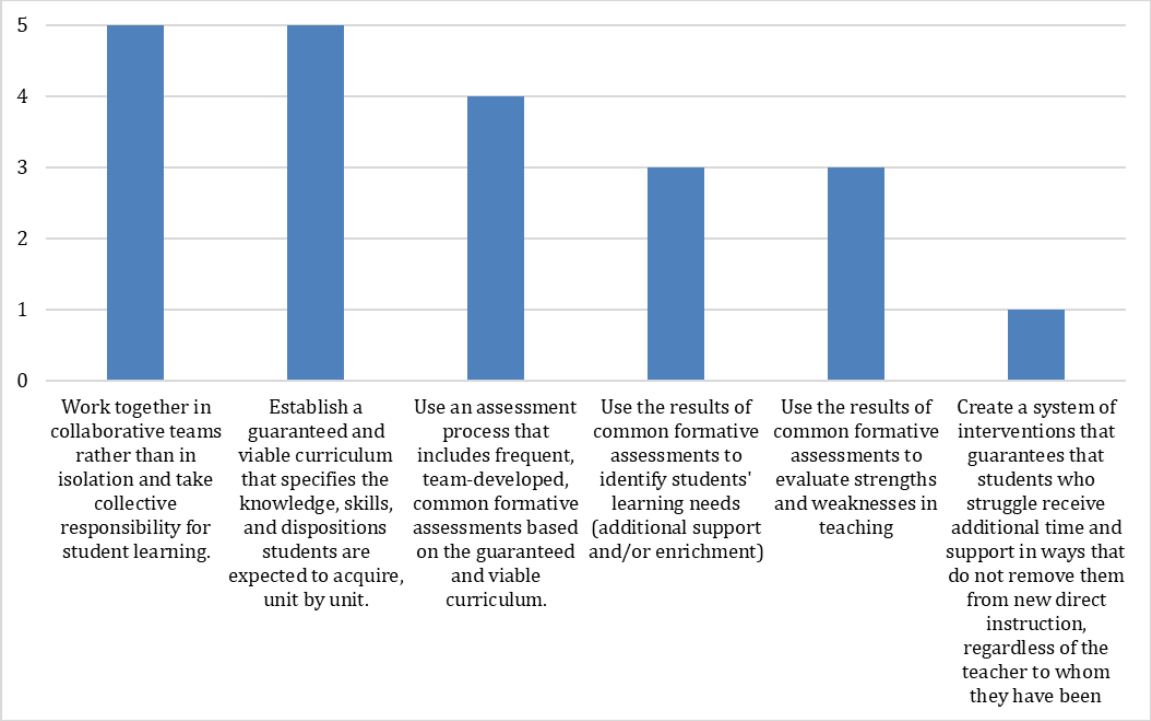


Figure 12

PLC Observation Tool Part II

Part II: Does the work of the PLC reflect DuFour and Reeves's (2016) central tenets of the PLC process?



In all of the PLC sessions, teachers' practices were collaborative and grounded in both their students' learning data and the established curriculum. The Elkton Middle School ELA department routinely shares lesson plans and works together during their common planning time. However, the teachers do not routinely collaborate around student learning data. Prior to each PLC session, I specified the type of student learning data they would analyze during the session and asked that they come prepared with either student work samples from common assessments that are aligned with curriculum

learning goals or access to their students' NWEA MAP data, which is the screening tool CCPS uses to assess reading comprehension.

In most of the PLC sessions, teachers referenced common formative assessments and reflected on student learning and instructional practices. At this level of collaboration, teachers evaluated the alignment of the formative assessments with the summative, end of unit assessments and discussed the challenges that students experienced with the instructional design of the units. In a few of the PLC sessions, teachers used the results of common formative assessments to identify students' learning needs and identify the strengths and weaknesses of their instructional practices. For this stage of the collaboration, teachers used a student work analysis protocol to guide their planning. The protocol was designed by the Maryland State Department of Education and includes three key processes: Reaching Consensus about Proficiency, Diagnosing Student Strengths and Needs, and Identifying Next Instructional Steps (Maryland State Department of Education).

In just a single PLC session, teachers translated their collaborative analysis and reflection into setting new learning goals for students that included a system of interventions. Only one note from the observation tool, recorded during the October 6 session, aligns with this criteria (identified instructional strategies to meet students at each level). Teachers appeared willing to analyze student work and differentiate tier one instruction; however, they did not appear willing to use the data to set new learning goals for students that included tier 2 or 3 interventions.

Chapter 5

REFLECTIONS ON IMPROVEMENT STRATEGIES

I engaged in this project to develop professional learning that aligned with the National Board Certification (NBC) process and the conditions that develop teacher self-efficacy (TSE). I selected the Elkton Middle School English Language Arts Department for this pilot because the teachers represent a wide range of teaching experience, and the student population is more diverse than the five other CCPS middle schools. Although the sample size of participants was small, it represented teachers most in need of tailored professional learning. The flexible structure of the pilot model facilitated a differentiated approach to PL that addressed the learning needs of both teachers and students without adding unrelated tasks or content to the teachers' workload. To this end, the PLC pilot was mostly successful. The data reveal that teachers perceived the pilot to be more aligned with the NBC process and the conditions that develop TSE than traditional professional learning (PL). Furthermore, data collected using the observation tool reveal that teacher interactions were more consistent with both the Architecture of Accomplished Teaching and the DuFour and Reeves (2016) criteria for effective PLCs.

Unlike traditional PL, in which leaders deliver content that may or may not be aligned with students' learning needs or the curriculum, the pilot PLC provided a job-embedded structure that allowed teachers to collaborate around a common curriculum and request professional learning based on student data. Alignment between PL and curriculum removes the gap that can exist between PL content and utility in instruction. When presented with traditional PL on a general strategy or approach, CCPS ELA

teachers have to figure out where the new learning will fit into the established curriculum, which is already replete with evidence-based literacy strategies. For example, district leadership has required PL on Advancement Via Individual Determination (AVID) reading, writing, and discussion strategies. These strategies are curriculum agnostic. However, the Secondary ELA curriculum already includes research-based strategies that were carefully selected to align with the demands of the texts. The pilot PLC allowed teachers to request professional learning that enhanced their understanding of the strategies and content already embedded within their curriculum. For example, at the end of the August 30 session, teachers requested professional learning on annotating, reciprocal teaching, and writing to learn. These strategies not only align with the curriculum but also address specific learning needs that teachers identified in student data.

Furthermore, PL that is content focused and job embedded supports mastery experiences, which can strengthen TSE (Darling-Hammond et al.2017; Lustick, 2011). This is especially true for induction teachers, or even veteran teachers who are new to a department or grade level. Of the seven ELA teachers at EMS, four are non-tenured, and one is conditionally certified. By designing PL that is aligned to the curriculum, I provided an opportunity for these less experienced teachers to develop mastery without overwhelming them with new or unrelated content. Likewise, the collaborative PLC meetings provided newer teachers with opportunities to build collegial relationships and learn from one another. Effective collaboration allows for the conditions that develop Bandura's notions of affective states, social persuasion, and vicarious learning.

Therefore, the PLC pilot provided teachers with opportunities to develop TSE as they deepened their understanding of the curriculum through collaborative reflection and planning.

In contrast to these successes, collaboration and professional learning were limited by factors like scheduling, differences in teachers' levels of experience, lack of teacher leadership training, teachers' reluctance to be observed, and the absence of a multi-tiered system of supports (MTSS) in CCPS middle schools. These are areas for leaders to target as the district moves further.

Scheduling and differences in teachers' levels of experience may have compromised the quality of teacher collaborations. In order to collaborate around common content and assessments, teachers were directed to work with grade level partners. At EMS, each grade has only two ELA teachers, and one teacher teaches multiple grade levels. During two of the five PLC sessions, the multi-grade teacher chose to work alone. Additionally, experienced teachers are not distributed evenly across grade levels. In fact, two of the three tenured teachers are assigned to eighth grade, the other veteran being the multi-grade teacher. The sixth and seventh grade teachers are non-tenured. Since teaching experience is positively associated with student achievement, the sixth and seventh grade teachers may not have gained as much from the collaboration as the more experienced eighth grade teachers (Podolsky et al., 2019).

The PLC model that I developed requires facilitation by a teacher leader. For the purposes of this study, I facilitated the PLC sessions, but to expand this model to other schools, teacher leaders will need to facilitate the PLC sessions. Currently, Cecil County

Public Schools (CCPS) offers leadership development to teachers who want to become administrators, but leadership development is not offered to teachers who wish to remain in the classroom. Additionally, I was the sole administrator of the Schoology module. An expanded PLC model will require a Schoology module for each school with teacher leaders facilitating as co-administrators.

Teachers did not express interest in being observed or observing their peers, which would have provided more opportunities for social persuasion and vicarious learning. Instead, teachers preferred observing symbolic models of instruction during the PL sessions. This approach allowed teachers to observe a rehearsed lesson in a low risk environment, which may have reduced feelings of anxiety and defensiveness, states of emotional arousal that can undermine TSE (Bandura, 1977). However, participants gain a stronger sense of efficacy when they see "models overcome their difficulties by determined effort than from observing facile performances by adept models" (p. 197). Therefore, teachers may learn more from observing colleagues in the classroom than presenters in professional learning sessions. Likewise, teachers preferred forms of social persuasion that were confined to collaborative planning as opposed to feedback on their practice. Although social persuasion alone can enhance outcome expectations, "to raise by persuasion expectations of personal competence without arranging conditions to facilitate effective performance will most likely lead to failures that discredit the persuaders and further undermine the recipients' perceived self-efficacy" (Bandura, 1977, p. 198). Therefore, teachers may benefit more from social persuasion that includes feedback on their practice than from social persuasion that is confined to planning

sessions. According to Stoeber & Rennert (2008), teachers have different reactions to different sources of pressure. For example, pressure from parents can contribute to a sense of burnout, but pressure from colleagues is actually inversely related to burnout and lack of personal accomplishment (p. 9). Although peer observations and feedback might feel uncomfortable, these experiences can be sources of motivation that ultimately create a greater sense of TSE.

Finally, the impact of the PLC pilot was limited by the absence of a multi-tiered system of supports. According to DuFour and Reeves (2016), teachers who engage in effective PLCs "Create a system of interventions that guarantees that students who struggle receive additional time and support in ways that do not remove them from new direct instruction, regardless of the teacher to whom they have been assigned" (p. 70). Only one note from the observation tool focused on the needs of some students for additional instruction or intervention. While CCPS has implemented MTSS in elementary schools, secondary schools have received minimal guidance and training for developing MTSS. If the pilot had been implemented in a school that had an established MTSS, participating teachers could have created supplemental supports for students based on their analysis of student data. However, without a MTSS, teachers were limited to differentiate tier one curriculum based on their analysis of student data. To expand the PLC model across Secondary ELA, I will need the support of CCPS executive leadership to develop teacher leaders who can operationalize professional learning through MTSS.

The Blueprint for Maryland's Future presents a model of professional learning that is led by Nationally Board Certified teachers. Currently, CCPS does not have NBC

teachers distributed evenly among schools and departments. Therefore, this PLC model relies on the leadership of ELA department chairs or lead teachers. However, neither NBC teachers nor lead teachers receive professional learning on teacher leadership or adult learning theory. The NBC process helps teachers improve their practice and encourages them to participate in learning communities, but teacher leadership skills are not explicitly developed. Likewise, CCPS does not provide leadership development for teachers who wish to remain in the classroom. Therefore, if the Blueprint's vision is to be actualized through models like the one I have proposed, CCPS executive leadership will need to address this gap in our professional learning infrastructure.

Another professional learning need that this project revealed is lack of guidance regarding peer observations. According to Rayan (2013), peer observations should involve a three stage process: pre-observation, during observation, and post observation, to establish clear expectations and procedures. Furthermore, peer observations should benefit both the observer and the observee with an emphasis on reciprocal professional learning rather than evaluation (Ostovar-Nameghi & Sheikhahmadi, 2016).

In addition to providing more guidance for peer observations, elevating teacher leadership might create a culture in which teachers are more comfortable being observed and receiving feedback, whether from a colleague or an administrator. When teachers have school leadership opportunities, they experience a sense of belonging, which can positively influence affective states (Engin, 2020). Teachers who trust their administration may be more open to observations and feedback, thus opening the door to meaningful vicarious learning experiences.

In addition to building teacher leadership, CCPS principals and other administrators might consider reducing time spent in generic PL activities. Research indicates that professional learning experiences improve TSE when those experiences are voluntary and selected by the teachers based on their professional goals (Yang, 2019). The PLC model that I have proposed allows teachers to request professional learning based on their analysis of student work and subsequent reflection upon instruction. This approach is also consistent with component four of the NBC process, for which teachers reflect upon their practice to determine a professional learning need. For the duration of the pilot, EMS ELA teachers participated in both the PLC pilot and professional learning related to AVID, which was required by executive district leadership. This lack of alignment in content can render all PL a burdensome chore rather than an empowering learning experience. To eliminate competing initiatives and ensure a cohesive learning experience that builds self efficacy for all teachers, I recommend that executive leadership implement the PL model district wide.

Finally, to fully leverage the PLC process, CCPS executive leadership should implement an MTSS model in middle schools. The secondary ELA program cannot provide the structure and resources to facilitate teachers' capacity to develop individual learning goals that can be addressed through a system of interventions during regular instruction. This would require that CCPS executive leadership make adjustments to the secondary schedule and an investment in both interventions and professional learning for content teachers related to those interventions. Therefore, I recommend that CCPS

develops an MTSS model for secondary schools that involves all teachers, not just special educators, along with interventions that align with and supplement tier one curriculum.

Chapter 6

REFLECTIONS ON LEADERSHIP DEVELOPMENT

As a student of the University of Delaware's Ed.D. program, I have benefitted from relevant coursework, rigorous research, and inspiring relationships. These experiences have honed my skills as a scholar, problem solver, and leader.

Growth as a Scholar

Prior to my enrollment in the Ed.D. program, I relied on the work of practitioners, rather than scholars, to inform my decisions as a leader. Although practitioners often cite research, they do so to support their own perspectives. As a doctoral student, I learned how to read, interpret, and evaluate research. Therefore, when a practitioner cites research, I can go to the original source to evaluate the literature review, study design, sample, instrumentation, data analysis, and results. This ability to evaluate research has sharpened my judgment and reinforced my credibility, which in turn expands my sphere of influence. For example, I am currently serving on a number of committees charged with the implementation of The Blueprint for Maryland's Future. The research that I have conducted throughout my coursework and ELP has helped me make meaningful contributions to these committees, especially related to literacy and professional learning. Indeed, the Education Policy and Governance course afforded me the opportunity to delve into the Blueprint for Maryland's Future a year before most of my colleagues.

Furthermore, the feedback and guidance that I received throughout the ELP process improved the integrity and quality of my work. At the beginning of the ELP process, I identified a problem and a solution, and I intended to confirm my solution

through research. However, my advisor suggested that I identify a problem and questions to guide my research before arriving at possible solutions. This shift allowed me to explore the complexities of the problem and a range of potential solutions before arriving at a solution that met the needs of my organization. Once I started drafting, my advisor also noted my tendency to make statements that claimed causation, when in fact I could only suggest correlation. The iterative and generative support that I received throughout the ELP process improved my capacity and integrity as a scholar.

Growth as a Problem Solver

My participation in the Ed.D. program has also improved my ability to solve problems using data. For example, I was early in my role as a leader when I took the Analysis of Secondary Data for Decision Making course. This course gave me the skills that I needed to evaluate an intervention program for struggling readers. A regression analysis of the data revealed that achievement gains were inconsistent across schools and not sustainable over time. The ability to analyze data empowered me to make a decision that impacted student learning. I expanded upon this ability when I developed a survey and analyzed data for my ELP. Like most leaders in education, my years of experience have honed my intuitions and instincts. However, the ability to collect and analyze data has helped me to become more objective and critical as a problem solver.

Growth as Leader

My growth as a scholar and problem solver have strengthened my confidence and impact as a leader. The decisions that I make regarding curriculum and instruction are high stakes because they influence student learning. Therefore, it is imperative that my decisions are informed by research and data. However, my experiences as a leader and graduate student, particularly during the pandemic, have also reinforced my commitment to making decisions that are informed by the experiences and perspectives of teachers.

In the spring of 2020, the abrupt shift to online teaching presented a huge challenge to my own sense of self-efficacy as a leader. Initially, my instructional coach and I were consumed by the daunting task of moving our instructional content into a learning management system. That work took a few weeks, but then I had to step back as teachers stepped up to reach students through the digital void. To fill the days, I popped in and out of virtual classrooms, observing as teachers bravely attempted to connect with the dark, muted windows that represented their students. As a doctoral student, I started taking more electives on digital learning, and I tried to provide relevant and helpful professional learning opportunities. However, the opportunities I offered felt more like vain attempts to make myself feel better than real support. Teachers were figuring virtual teaching out without me because they had to.

Prior to the pandemic, I had assumed that my ELP work would be focused on the work that I had accomplished around literacy. During my brief time as a leader, Cecil County Public Schools had enjoyed some gains in student achievement, and I wanted to continue focusing on the implementation of research-based literacy practices to improve

student learning. However, the pandemic reinforced the importance of teacher self-efficacy (TSE) as a prerequisite for the success of any program. According to Narayanan & Ordynans (2022), TSE becomes a source of resilience as teachers navigate both the perennial and unprecedented challenges that shape their careers. Teachers with a strong sense of self-efficacy reflect on their experiences to "continually rewrite and revise their personal stories as they grow in the work that they do with diverse students" (p. 41). During the pandemic, it was the resilience of teachers, not the curriculum or professional learning, which carried us all through.

At the same time, I was learning about the Blueprint for Maryland's Future and the career ladder, which elevates teacher leadership. The conflation of the pandemic and the Blueprint prompted me to explore models of professional learning that would both leverage our success with research-based literacy practices and empower teachers to lead their own learning. I designed a model based on the PLC work of DuFour & Reeves (2016), the conditions that develop TSE, and the process of National Board Certification.

I selected Elkton Middle School (EMS) for the pilot model because the English Language Arts (ELA) department represents a range of teacher experience: conditionally certified, non-tenured, and tenured. However, EMS was also an ideal choice because, compared to the other five middle schools in our district, it serves a more diverse student population, In fact, EMS is the only Title 1 middle school in the district. EMS teachers have often felt that professional learning and curriculum developed for the district did not meet the specific needs of their community. Therefore, I believed the EMS might benefit the most from a flexible professional learning model.

Before my experiences as a graduate student during the pandemic, I might have met with the EMS principal to pitch my proposal and secure her commitment before introducing it to the teachers. However, my renewed appreciation for teacher leadership guided me to meet with the lead ELA teacher, first, to pitch my proposal and secure her support. Next, I met with the principal and the lead teacher together, and upon receiving the principal's support, I introduced the model at the following ELA department meeting. Furthermore, I offered the pilot in place of, rather than in addition to, the professional learning activities that I had planned for secondary ELA teachers district wide.

As I implemented the pilot, I felt more like a facilitator rather than a manager of learning. However, the facilitation was possible because of the mandatory professional learning that preceded the pilot. For the last five years, I have provided professional learning that either aligned with the strategies embedded in the curriculum or addressed the trends in district-wide data. This top down approach was efficient in establishing a baseline level of understanding and competence for secondary ELA teachers throughout the distinct. However, I did not meet the specific professional learning needs of school departments or individual teachers. I believe the PLC pilot reflects both my evolution as a leader and the organic progress of the secondary ELA program. I am finally at a stage where I have the resources and relationships to share leadership responsibilities with teachers.

Final Thoughts

My experience as an Ed.D. student and the work contained in this ELP advanced my growth as a scholar, problem solver, and leader. My course work gave me the skills I needed to address organizational problems using scholarly research and data. I also applied these skills to my ELP work as I developed a PLC pilot and analyzed data. The pandemic reinforced my belief that teachers are the drivers of student learning. My hope is that my experiences over the last four years have expanded my capacity to meet teachers' professional learning needs in a manner that is collaborative, efficient, and effective.

REFERENCES

Achieve the Core. (n.d.). The Shifts. https://achievethecore.org/category/419/the-shifts

Aylsworth, A. J. (2012). Professional learning communities: An analysis of teacher participation in a PLC and the relationship with student academic achievement (Order No. 3511356). . (1022640754).

https://www.proquest.com/dissertations-theses/professional-learning-communities-analysis/docview/1022640754/se-2

Bandura. A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215.

Bandura, A. (1993). Perceived Self-efficacy in Cognitive Development and Functioning. *Educational Psychologist*, 28(2), 117–148.

Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of Human Behavior* (Vol. 4, pp. 71-81). New York: Academic Press. (Reprinted in H. Friedman [Ed.], *Encyclopedia of Mental Health*. San Diego: Academic Press, 1998).

Bandura, A. (1995). *Self-efficacy in Changing Societies*. Cambridge University Press.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. W. H. Freeman.

Birenbaum, M., Kimron, H., Shilton, H., & Shahaf-Barzilay, R. (2009). Cycles of inquiry: Formative assessment in service of learning in classrooms and in school-based professional communities. *Studies in Educational Evaluation*, 35(4), 130–149. https://doi.org/10.1016/j.stueduc.2010.01.001

Blueprint. (2024). NCEE. https://ncee.org/blueprint/

Bookworms K-5 Reading and Writing. (2023). Open up Resources. https://openupresources.org/ela-curriculum/bookworms-k-5-reading-writing-curriculum/

Cansoy, R., & Parlar, H. (2018). Examining the relationship between school principals' instructional leadership behaviors, teacher self-efficacy, and collective teacher efficacy. *International Journal of Educational Management*, 32(4), 550–567. https://doi.org/10.1108/ijem-04-2017-0089

Cecil County Public Schools. (2023). Blueprint for Maryland's Future: Initial Implementation Plan. Maryland State Department of Education. https://www.ccps.org/Page/4615

Chingos, M. M., & Whitehurst, G. J. (2012). Choosing blindly: Instructional materials, teacher effectiveness, and the Common Core. Brown Center on Educational Policy at Brookings. https://www.brookings.edu/wpcontent/uploads/2016/06/0410_curriculum_chingos_whitehurst.pdf

Chong, W. H., & Kong, C. A. (2012). Teacher Collaborative Learning and Teacher Self-Efficacy: The Case of Lesson Study. The Journal of Experimental Education, 80(3), 263–283. https://doi.org/10.1080/00220973.2011.596854

Choong, Y. O., Ng, L. P., Ai Na, S., & Tan, C. E. (2019). The Role of Teachers' Self-efficacy. Between Trust and Organizational Citizenship Behaviour among Secondary School Teachers. *Personnel Review*, (ahead-of-print). https://doi.org/10.1108/pr-10-2018-0434

Çoban, Ö, Özdemir, N., & Bellibaş, M. Ş. (2020). Trust in Principals, Leaders' Focus on Instruction, Teacher Collaboration, and Teacher Self-efficacy: Testing a Multilevel Mediation Model. *Educational Management Administration & Leadership*, 174114322096817. https://doi.org/10.1177/1741143220968170

Cowan, J., & Goldhaber, D. (2016). National Board Certification and Teacher Effectiveness: Evidence from Washington State. *Journal of Research on Educational Effectiveness*, 9(3), 233–258.

Darling-Hammond, L., Hyler, M. E., Gardner, M. (2017). Effective Teacher Professional Development. Palo Alto, CA: Learning Policy Institute. https://doi.org/10.54300/122.311.

Diliberti, Melissa Kay and Heather L. Schwartz. (2023). Educator Turnover Has Markedly Increased, but Districts Have Taken Actions to Boost Teacher Ranks: Selected Findings from the Sixth American School District Panel Survey. RAND Corporation. https://www.rand.org/pubs/research_reports/RRA956-14.html.

Dinçer, B. (2021). The Predictors of Senior Pre-service Teachers' Teacher Self-efficacy: Achievement Goal Orientations, and Communication Skills. *International Journal of Curriculum and Instruction*, 13(3) Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/predictors-senior-pre-service-teachers-teacher/docview/2608652125/se-2

DuFour, R., & Reeves, D. (2016). The futility of PLC lite. *Phi Delta Kappan*, *97*(6), 69–71. https://doi.org/10.1177/0031721716636878

Easton, L. B. (2015). The 5 Habits of Effective PLCs. *Journal of Staff Development*, *36*(6), 24–34.

Eells, Rachel Jean. (2011). Meta-Analysis of the Relationship Between Collective Teacher Efficacy and Student Achievement. [Doctoral dissertation, Loyola University Chicago] https://ecommons.luc.edu/luc_diss/133

Engin, G. (2020). An Examination of Primary School Students' Academic Achievements and Motivation in Terms of Parents' Attitudes, Teacher Motivation, Teacher Self-efficacy and Leadership Approach. *International Journal of Progressive Education*, 16(1), 257-276. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/examination-primary-school-students-academic/docview/2396844094/se-2

Goddard, R., Goddard, Y., Sook Kim, E., & Miller, R. (2015). A Theoretical and Empirical Analysis of the Roles of Instructional Leadership, Teacher Collaboration, and Collective Efficacy Beliefs in Support of Student Learning. *American Journal of Education*, 121(4), 501–530. https://doi.org/10.1086/681925

Goroshit, M., & Hen, M. (2014). Does Emotional Self-efficacy Predict Teachers' Self-efficacy and Empathy? *Journal of Education and Training Studies*, 2(3), 26-32. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/does-emotional-self-efficacy-predict-teachers/docview/1697497968/se-2

Gray, J., Kruse, S., & Tarter, C. J. (2013). Developing equitable learning in professional learning communities through enabling school structures, collegial trust, and academic emphasis in a low-income district. Annual Meeting of the American Educational Research Association. https://ircommons.uwf.edu/discovery/fulldisplay/alma99380090608606600/01FALSC_UWF:ResearchRepository

Hipp, K., Huffman, J., Pankake, A., & Olivier, D. (2008). Sustaining professional learning communities: Case studies. Journal of Educational Change, 9(2), 173-195. doi:https://doi.org/10.1007/s10833-007-9060-8

Jaquith, A., Snyder, J., & Bristol, T. (2016). Turning Schools Around: The National Board Certification Process as a School Improvement Strategy. Stanford, CA: Stanford Center for Opportunity Policy in Education.

Kelemen, M. L. (2003). Managing quality: Managerial and critical perspectives. Thousand Oaks, CA: Sage.

Kılınç, A. Ç., Bellibaş, M. Ş., & Bektaş, F. (2021). Antecedents and Outcomes of Teacher Leadership: the Role of Teacher Trust, Teacher Self-efficacy and Instructional Practice. *International Journal of Educational Management*, 35(7), 1556–1571. https://doi.org/10.1108/ijem-04-2021-0148

Kind, V. and Chan, K.K.H. (2019). "Resolving the Amalgam: Connecting Pedagogical Content Knowledge, Content Knowledge and Pedagogical Knowledge." *International Journal of Science Education*. 41 (7). 964-978.

Kraft, Matthew A. and Melissa Arnold Lyon. (2022). The Rise and Fall of the Teaching Profession: Prestige, Interest, Preparation, and Satisfaction over the Last Half Century. (EdWorkingPaper: 22-679). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/7b1a-vk92

Lee, H., Chung, H. Q., Zhang, Y., Abedi, J., & Warschauer, M. (2020). The Effectiveness and Features of Formative Assessment in US K-12 Education: A Systematic Review. *Applied Measurement in Education*, 33(2), 124–140. https://doi.org/10.1080/08957347.2020.1732383

Lewis, W. E., Walpole, S., & Mckenna, M. C. (2014). *Cracking the Common Core: Choosing and Using Texts in Grades 6 - 12*. New York [U.A.] Guilford Press.

LoCasale-Crouch, J., Davis, E., Wiens, P., & Pianta, R. (2012). The Role of the Mentor in Supporting New Teachers: Associations with Self-Efficacy, Reflection, and Quality. *Mentoring & Tutoring: Partnership in Learning*, 20(3), 303–323. https://doi.org/10.1080/13611267.2012.701959

Lustick, D. (2011). Experienced secondary science teachers' perceptions of effective professional development while pursuing National Board certification. *Teacher Development*. 15(2), 219-239. https://doi.org/10.1080/13664530.2011.571511

Maryland Public Schools. (2023). The Blueprint for Maryland's Future.

Maryland State Department of Education (n.d.), Examining Student Work to Inform Instruction. Retrieved from http://mdk12.org/data/examining/index.html

Narayanan, Madhu & Ordynans, Jill G. (2022). Meaning Making and Self-Efficacy: Teacher Reflections through COVID-19. *The Teacher Educator*. 57:1, 26-44. DOI:10.1080/08878730.2021.1990455

National Board for Professional Teacher Standards. (2023). Retrieved from https://www.nbpts.org/about/mission-history/

National Board for Professional Teacher Standards. Adolescence and Young Adulthood/ English Language Arts: Portfolio Instructions and Scoring Rubric. (2023). Retrieved from https://www.nbpts.org/certification/candidate-center/first-time-and-returning-candidate-resources/

Park, S., Oliver, S., Johnson, T., Graham, P. & Oppong, N. (2007). Colleagues' roles in the professional development of teachers: Results from a research study of National Board certification. *Teaching and Teacher Education*. 23, 368-389. https://doi.org/10.1016/j.tate.2006.12.013

Petty, T. M., Good, A. J., & Handler, L. K. (2016). Impact on student learning: National Board Certified Teachers' perspectives. Education Policy Analysis Archives. 24(49). http://dx.doi.org/10.14507/epaa.24.2227

Podolsky, A., Kini, T., & Darling-Hammond, L. (2019). Does teaching experience increase teacher effectiveness? A review of US research. *Journal of Professional Capital and Community, 4*(4), 286-308.

Pressley, T., & Ha, C. (2021). Returning to teaching during COVID-19: An empirical study on teacher self-efficacy. Teaching and Teacher Education, 106, 103465. https://doi.org/10.1016/j.tate.2021.103465

Rayan, P. (2013). Peer Observation of teaching: A tool for professional development. *English for Specific Purposes World, 14*(39), 45-54.

Saracoglu, M. (2022). Reflective Thinking and Inquiry Skills as Predictors of Self-Efficacy in Teaching Mathematics. *Problems of Education in the 21st Century*. 80(10). 213-231. http://dx.doi.org/10.33225/pec/22.80.213

Shulman, L. (1986). Those Who Understand: Knowledge Growth in Teaching. *Educational Researcher*, 15(2), 4–14.

Steiner, David. (2017). Curriculum Research: What We Know and Where to Go. *Standards Work*. https://standardswork.org/wp-content/uploads/2017/03/sw-curriculum-research-report-fnl.pdf

Stoeber, J., & Rennert, D. (2008). Perfectionism in school teachers: Relations with stress appraisals, coping styles, and burnout. *Anxiety, Stress, & Coping*, 21, 37-53.

Sullivan, Daniel (2010). *An Examination of National Board Certified Teachers' Views of the Professional Impact of National Board Certification.* [Doctoral Thesis, Aurora University]. ProQuest LLC. http://www.proquest.com/en-US/products/dissertations/individuals.shtml

U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse.

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and Teacher Education*, 24(1), 80–91. https://doi.org/10.1016/j.tate.2007.01.004

Wiliam, Dylan. (2016, April, 1). The Secret of Effective Feedback. ASCD. https://www.ascd.org/el/articles/the-secret-of-effective-feedback

Yang, H. (2019). The Effects of Professional Development Experience on Teacher Self-Efficacy: Analysis of an International Dataset Using Bayesian Multilevel Models. *Professional Development in Education*, 1–15. https://doi.org/10.1080/19415257.2019.1643393

Yoo, J. H. (2016). The Effect of Professional Development on Teacher Efficacy and Teachers' Self-Analysis of Their Efficacy Change. *Journal of Teacher Education for Sustainability,* 18(1), 84–94. https://doi.org/10.1515/jtes-2016-0007

Appendix A

ARTIFACT 1

A Review of the Literature on Teacher Efficacy: Development and Impact

Nationwide, educators have become targets of culture wars, even as they navigate the aftermath of the COVID-19 pandemic. These recent challenges have exacerbated a steady decline in teachers' job satisfaction and the public's perception of teaching as a career (Kraft & Lyon, 2022). Over the past three years, these circumstances have led to significant teacher attrition at Cecil County Public Schools. In Secondary English Arts (ELA) alone, fifteen ELA teachers left the classroom during the 2021-2022 school year, which is approximately 15% of the Secondary ELA Department. Only nine teachers were hired to replace the fifteen, and of those, five were not certified in Secondary ELA. As a result, class sizes are larger, and a few are being led by teachers who have not yet met basic job requirements. This raises concerns about levels of teacher efficacy and the impact low teacher efficacy can have on student learning.

Definition of Teacher Self-Efficacy

Understanding research on teacher efficacy requires attention to specific definitions. Bandura (1995) defines efficacy as one's beliefs in one's "capabilities to organize and execute courses of action required to manage prospective situations" (p. 2).

Applying the construct of efficacy to teachers, Tschannen-Moran et al. (1998) posits that teacher self-efficacy (TSE) is "the belief in his/her capability to organize and execute courses of required actions to successfully accomplish a specific teaching task in a particular context" (p. 233). TSE can be conceptualized as having two dimensions: general teacher efficacy (GTE) and personal teacher efficacy (PTE). Personal teacher efficacy refers to a teachers' confidence in their own skills and abilities to advance student learning, while GTE refers to teachers' focus on the factors of learning that they can influence as opposed to those factors outside of their control, like students' socioeconomic status (Choong et al., 2020). Research has confirmed that TSE is not only linked to student achievement but also to teachers' job satisfaction. Teachers who believe in their abilities to improve student learning are motivated, flexible, and resilient. In contrast, teachers with low levels of self-efficacy are less invested in student learning and more likely to evade their responsibilities (Bandura, 1993). School leaders who develop individual teacher efficacy can, over time, build collective efficacy within a faculty of teachers, creating a culture of mutual support grounded in a shared commitment to student achievement.

The Development of Teacher Self-Efficacy

Because TSE is associated with important outcomes, it is important to investigate evidence on its development. The development of TSE is a complex and reciprocal process that includes innate qualities, peer collaboration, reflection, and supportive leadership. Dinçer (2021) found that among pre-service teachers, achievement goals, communication skills, department, and academic achievement scores were predictive of

TSE. Of these qualities, communication skills proved to be the strongest predictor of TSE, followed by achievement goal orientation. Communication skills are essential for success in any professional field, but they are critically important for teachers, because teaching is a form of communication. The clarity with which teachers communicate knowledge, ideas, and emotions determines if and how their students will learn. Achievement goal orientation is similar to what Bandura (1997) described as outcome expectations, or the perceived connection between an individual's actions and the possible result. When preservice teachers "realize that they are effective in the evaluation process, their enthusiasm in their learning processes grows, indicating that their self-efficacy beliefs are improving" (Dinçer, 2021, p. 3289). Thus, TSE predicts performance because "the stronger the perceived self-efficacy, the higher the goal challenges people set for themselves and the firmer is their commitment to them" (Bandura, 1993, p. 118). Effective communication skills and early experiences of success can establish a fledgling sense of TSE that helps induction teachers persevere through the first few years of their teaching careers, which are typically the most challenging.

Teachers who possess emotional self-efficacy may be better positioned to develop self-efficacy in their professional lives. Goroshit and Hen (2014) examined emotional self efficacy as a predictor of TSE. People who demonstrate emotional self efficacy are able to balance their feelings and thoughts in a manner that facilitates constructive responses (Goroshit & Hen, 2014). Teachers with high levels of emotional self-efficacy are able to empathize with their students and colleagues, creating a safe environment for learning. Indeed, the study found a significant and positive correlation between emotional

self-efficacy and TSE. People who do not trust their own levels of personal efficacy experience heightened anxiety, leading to avoidance behavior. Rather than directing their efforts to solving problems, teachers with low efficacy turn inward to manage distress. However, guided mastery experiences can strengthen personal efficacy, which lessens anxiety and stress in the face of challenging experiences (Bandura, 1993). Therefore, both emotional efficacy and personal efficacy are generative. Certain innate qualities, like communication skills, goal achievement orientation, and emotional self-efficacy, may make it more likely that teachers will develop and maintain TSE throughout their careers.

Some people enter the teaching profession with the qualities and skills that predict TSE. Others may be lacking in one or all of these areas. According to Bandura (1997) TSE can be developed through mastery experience, vicarious experience, social persuasion and affective states (1997). Mastery experiences, or performance accomplishments, are particularly effective in developing efficacy because success builds mastery expectations, which are then reinforced by mastery experiences. Direct experiences with success are more impactful then social persuasion, or verbal reinforcement, vicarious experiences, or observing models of success, and affective states, or emotional arousal (Bandura, 1977). However, the four constructs can interact to initiate and sustain the development of TSE. School leaders can apply Bandura's framework by establishing trust, sharing leadership, facilitating collaboration, and encouraging reflection. These behaviors create learning environments that "construe

ability as an attainable skill, deemphasize competitive social comparison, and highlight self-comparison of progress and personal accomplishments" (Bandura, 1993, p. 125).

Leadership and Teacher Self-Efficacy

Cansoy and Parlar (2018) identify two leadership styles that develop TSE: transformational leadership and instructional leadership. Transformational leadership provides a vision for success that aligns with teachers' professional goals and helps them build their capacity to meet those goals. When transformational leaders align school initiatives with teachers' professional goals, teachers receive the professional learning and resources that they need to improve student learning. Instructional leadership refers to "the pattern of behaviors that school principals personally exhibit, or make the staff perform, in order to ensure student learning" (Cansoy & Parlar, 2018, p. 562). Like transformational leaders, instructional leaders align their vision with the needs of their teachers and students, but instructional leaders also manage the implementation of this vision through evaluation, curriculum, and data analysis. Both transformational and instructional leaders may develop teacher efficacy by providing the mastery experiences that ultimately advance student learning.

Effective leaders are also strategic in their efforts to build trust, both between themselves and teachers and among teachers. The work of teaching is emotionally strenuous, particularly in the current political climate. Teachers are publicly scrutinized and vilified for social issues that are beyond the realm of their influence. Therefore, it is not surprising that trust in leadership and colleagues is significantly related to TSE (Choong et al., 2020). Just as students need to trust teachers before they can make mistakes or take intellectual risks, teachers need to trust their colleagues and principals before they can engage in meaningful collaborations or accept constructive feedback. By

establishing trust, leaders will influence teachers' affective states in a manner that promotes emotional safety.

School leaders can also share leadership responsibilities to build trust and provide mastery experiences for teachers. (2021) found that teachers who participated in leadership activities were more likely to report higher levels of TSE. Engin (2020) found that teachers who work in schools where the leadership is highly distributive are more motivated than teachers who work in schools where the leadership is somewhat or less distributive. Since there is a correlation between levels of TSE and teacher motivation, it can be concluded that distributed leadership develops TSE. A principal who promotes teacher leadership "increases all stakeholders' sense of belonging to the school organization thus increasing achievement level" (Engin, 2020, p. 272). Teacher leadership opportunities, through activities like school improvement teams or professional learning, build teachers' professional mastery and enhance feelings of trust. In fact, Cansoy & Parlar (2018) found that "as school leadership behaviors increase, teachers' self-efficacy also increases, and vice versa" (p. 561).

Furthermore, shared leadership results in professional learning experiences that are aligned with Bandura's (1997) domains of mastery experience, vicarious experience, social persuasion and affective states. Yang (2019) used an international data set to investigate the relationship between professional learning and TSE, with a focus on United States middle schools. While the study revealed a positive and significant correlation between professional learning and TSE, Yang notes that not all professional learning influences TSE. Research indicates that professional learning experiences

improve TSE when those experiences are voluntary and selected by the teachers based on their professional goals. However, Yang's study also revealed that the most common forms of professional learning are courses and workshops with high levels of participation, suggesting that these experiences are required by supervisors rather than teacher-selected. Thus, while professional learning can improve TSE, traditional professional learning is unlikely to impact TSE in a manner that yields results in student learning.

In contrast, professional learning that offers different pathways for learning through digital learning management systems can provide teachers with opportunities for mastery experience, vicarious experience, social persuasion and improved affective states. Yoo (2016) examined the relationship between an online professional learning experience and teachers' levels of self-efficacy. The professional learning module spanned five weeks and included support and feedback from an instructional coach. The content of the module, which focused on instructional strategies, allowed teachers to experience mastery as they adjusted their practice in ways that improved student learning. The curriculum also provided vicarious experiences and social persuasion through opportunities for teachers to observe their colleagues. Furthermore, coaching and weekly online discussions addressed affective states as teachers shared the challenges they were experiencing and offered one another feedback and encouragement. This study indicates that professional learning activities can develop teacher efficacy if the conditions align with teachers' need for autonomy, collaboration, and reflection. Unlike traditional "sit and get" models of professional learning, leaders can leverage online learning

management systems to offer learning that is self-directed. According to Bandura (1993) there is a relationship between personal efficacy and the beliefs people hold about the amount of influence they can exert over their environments. Leaders can facilitate professional learning experiences that improve TSE by giving teachers a voice in professional learning and providing opportunities for collaboration.

Goddard et al. (2015) found that teacher collaboration mediated an indirect effect of leadership on teachers' collective efficacy. Effective teacher collaboration occurs under three important conditions: the content is aligned with and embedded within instruction, learning goals are clearly articulated, and structures are supportive but flexible enough to allow for innovation (Çoban et al., 2023). Therefore, leaders can develop TSE by establishing the conditions that support effective teacher collaborations. Using qualitative methods to explore the relationship between teacher collaboration and TSE, Chong and Kong (2012) found that a collaborative lesson study provided teachers with the mastery experiences, vicarious experiences, and verbal persuasion that develop TSE. By using a protocol to collaboratively develop, implement, and reflect upon a lesson, teachers strengthened their knowledge of content and pedagogy. Veteran teachers were able to vicariously experience the innovative ideas and perspectives of newer teachers, and newer teachers were able to vicariously experience the cumulative knowledge and wisdom of veteran teachers. All teachers experienced mastery as they implemented a lesson that reflected the collective skills of the group. Finally, teachers experienced social persuasion when they provided one another with constructive feedback. The study supports other evidence suggesting that "Schools with strong

supportive relationships among colleagues provide opportunities for teachers to increase their sense of self-efficacy" (Çoban et al., 2020, p. 14).

Professional learning that is grounded in collaboration also helps teachers become reflective practitioners, which is an essential behavior for the development of TSE. Reflective thinking is a skill that cultivates the willingness to learn and grow. This willingness builds TSE as teachers learn more, not just about their students and content, but also about the instructional strategies that make content accessible to students. Reflection can lead to strategic planning, and strategic planning can lead to improved outcomes for students. This process allows teachers to experience mastery in a manner that builds self-efficacy. Using a relational screening model, Saracoglu (2022) explored the relationship between reflective thinking and self-efficacy. Data were collected from 304 prospective math teachers using the "Reflective Thinking Level Determination Scale," "Inquiry Skills Scale," and "Mathematics Teaching Efficacy Belief Instrument." The authors found that reflective thinking has a positive effect on the TSE beliefs. They found that reflective thinking not only made teachers more confident, but also more willing to learn and improve their practice. Overall, reflective thinking helped teachers develop a positive attitude toward their work.

Principals can leverage the power of both reflection and collaboration by establishing mentoring programs. In a study of efficacy levels in novice teachers, LoCasale-Crouch et al. (2012) found that "self-efficacy and reflection is sensitive to differences in mentoring" (p. 316). Novices who felt more supported by a mentor and participated in mentor-facilitated professional learning activities reported higher levels of

self-reflection and efficacy. Mentors support novice teachers by posing questions that prompt them to evaluate their decisions through the lens of student learning. With this guidance, novice teachers can develop the reflective thinking skills that establish a strong sense of efficacy.

Some people enter the teaching profession with skills like effective communication, emotional self-efficacy, and achievement goal orientation that provide a solid foundation for developing TSE. All teachers will benefit from transformational and instructional leadership to develop and strengthen TSE throughout the course of their careers. Such leadership builds trust, shares leadership responsibilities, and provides opportunities for professional learning that are grounded in autonomy, collaboration and reflection.

Teacher Self-Efficacy and Student Achievement

TSE impacts student learning, teacher resilience, and school culture. Teachers with high levels of efficacy are more likely to persist in their efforts to find instructional strategies and resources for their students, use classroom management strategies that empower students, provide support for struggling learners, develop achievable goals, and persevere when students fail (Hoy & Spero, 2005). In a study that investigated relationships between teacher leadership, instructional practice, and teacher efficacy, Kılınç et al. (2021) found the strongest effect size in the relationship between teacher efficacy and instructional practices. Teachers who believe in their capacity to influence student learning are more motivated to adapt their practices to meet their students' needs. In fact, Engin (2020) found that teachers with high TSE are also highly motivated, and

that student achievement increased with increased teacher motivation. According to Bandura (1993), self-efficacy beliefs contribute to motivation by determining the goals people establish, the amount of effort they invest in achieving goals, their willingness to persevere through challenging tasks, and the amount of resilience they develop after experiencing failure (p. 131). As motivated teachers persist until they experience mastery, they improve their practices in ways that directly impact student achievement. Thus, TSE and motivation reinforce one another through mastery experiences.

Mahmoodi et al. (2022) used mixed methods to discern the relationship between teacher efficacy and student achievement. Teachers responded to the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk-Hoy (2001), and data from students' final exams were collected. The results showed that teacher efficacy had a significant and positive relationship with students' performance on the exam. This study was small and used convenience sampling to access third-year teachers participating in a government teacher training program. Additionally, the study included other independent variables, including classroom management strategies and teacher burnout. Interestingly, the teacher efficacy variable was the strongest predictor of student learning. In a larger study, Wang (2021) surveyed 365 teachers from 25 public middle schools of the Hubei province in China. Teacher data were collected using the TSES, and student data were collected using grades from the previous term. Students reported their grades, and class averages were assigned to teachers. The results showed that teachers with high levels of efficacy had a significant and positive impact on student achievement.

Teacher efficacy may also affect the depth of learning that students experience. Evidence shows that teachers with high levels of TSE devote more classroom time to learning than teachers with low levels of efficacy (Bandura, 1993). Mazlum et al. (2015) used random sampling of 40 English teachers and 240 high school students selected from public schools in Iran. They found that teachers' self-efficacy beliefs have a direct and positive effect on students' deep learning approaches and a direct but negative effect on students' surface learning approaches. The authors distinguish between the two approaches by explaining that deep learning approaches require integrating new knowledge into existing cognitive structures, whereas surface learning requires memorization and retrieval of facts. The authors suggest that teacher efficacy promotes deep learning because teachers with high efficacy use class time more effectively and structure questioning and learning experiences to transfer ownership of learning to students. Teachers with high TSE design instruction that provides students with opportunities for self-direction and mastery experiences (Bandura, 1993). In this type of learning environment, deep learning can occur.

To prepare students for the demands of a technologically advanced, interconnected, and global economy, teachers must teach skills that foster critical thinking, collaboration, innovation, initiative, and adaptability" (Saavedra & Opfer, 2012). Kara et al (2022) found that TSE has a fully mediating effect in students' perceptions of learning experience and teachers' perceptions of 21st century skills efficacy. Teachers who possess both personal teacher efficacy (PTE) and general teacher efficacy (GTE) not only have confidence in their own skills and abilities but are also able

to address external factors, such as the evolving context and expectations of a culturally diverse and technologically fluid society. These teachers “offer their students rich learning experiences and organize activities to equip them with 21st century skills in order to raise individuals who have the desired learning outcomes according to the requirements in this century (p. 61).

Furthermore, teachers with high levels of persevere through challenges, developing professional insight and resilience. Narayanan and Ordynans (2022) conducted a qualitatively-driven mixed methods study to determine how teachers’ perceptions of their own efficacy were affected by the abrupt shift to virtual learning during the 2020 pandemic. Participants responded to survey questions and then participated in interviews. Quantitative data were analyzed in the form of descriptive statistics, and qualitative data were analyzed using thematic analysis. Researchers found that while teachers experienced a sense of disorientation that caused them to reflect deeply, not only on their own practice, but in some cases, on the purpose of education, their TSE ratings showed relative stability. This is consistent with Yost (2006), who found that TSE outweighed school climate as an indicator of a novice teacher’s success. In fact, when teachers with high levels of efficacy struggle with a negative school climate or lack of support, they are more likely to change schools rather than leave the profession. These studies show that the degree to which teachers take responsibility for students' failures is an indication of their levels of efficacy. Teachers with high levels of efficacy take responsibility, both when students learn and when students fail to learn (Kurt et. al., 2014). As such, efficacy does not always come from success. It is the result

of assuming responsibility for student outcomes, reflecting on instruction, and adjusting instruction to better meet the needs of students.

In addition to direct impacts on student learning through instructional practices, teachers with high levels of TSE also impact student learning indirectly by positively influencing school culture. Using data from 102 independent studies generated from the Teaching and Learning International Survey (TALIS), an instrument that asks teachers and leaders about their work and learning environments, Kasalak, and Dagyar (2020) found a positive relationship between TSE and job satisfaction. This finding suggests that as teachers' self-efficacy beliefs improve, so does their job satisfaction. Whereas job satisfaction can be measured by the difference between what people expect to receive from their work and what they actually receive, professional burnout is "the depletion of energy, both mentally and physically" (Aydogmus & Serçe, 2021, p. 243). Teachers who are satisfied with their work are likely experiencing positive outcome expectations, which reinforce the reciprocal relationship between teacher input and student output. By developing TSE, school leaders can prevent professional burnout and retain a staff of committed and energized teachers.

Furthermore, teachers with high TSE are more likely to engage in organizational citizenship behaviors, such as leading school initiatives and mentoring novice teachers (Choong et al., 2020). However, the "trust element should not be neglected in school context as it is one of the main factors in enhancing teachers' self-efficacy" (p. 877). Leveraging the influence of teacher leaders requires the same leadership behaviors requisite for developing teacher leadership: building trust and sharing leadership

responsibilities. Furthermore, autonomy, or "a certain freedom area while pursuing their professions and making important decisions about their jobs" is related to both TSE and job satisfaction (Kasalak & Dagyar, 2020, p. 28). Nichols et al. (2020) examined the relationships between implementing a Positive Behavior and Interventions and Support (PBIS) program and TSE, collective efficacy, and teacher attributions. The relationship between TSE and implementation of PBIS was significant but weak. A possible explanation is that teachers with high levels of TSE require more autonomy than is provided by PBIS, which is highly structured and directive. Therefore, because high levels of TSE can positively impact organizational citizenship behaviors, leaders should consider balancing the needs of the organization with teachers' needs for trust and autonomy.

Collective Efficacy

Just as teachers experience a reciprocal relationship between their input and student output, leaders may find that developing TSE among individual teachers has a collective impact that improves student outcomes and elevates the culture school wide. Bandura (1997) defined collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment" (p. 477). Whereas individual TSE affects student achievement at the classroom level, collective teacher efficacy affects student achievement at the school level (Goddard et al., 2004). A teacher's personal sense of efficacy can be aligned with or different from collective efficacy experienced by the faculty. According to Bandura

(1993), “Although the level of academic progress achieved by a school largely reflects the summed contributions of teachers in their individual classrooms, school involve organizational interdependences that contribute to teachers’ collective sense of efficacy (Bandura, 1993, p. 141). Collective efficacy captures how perceptions of personal ability and the dynamics between individuals impact the group’s perceived identity (Aydogmus & Serçe, 2021). To measure collective efficacy, researchers either aggregate individual teacher’s perceptions of personal efficacy to the school level or aggregate individual teacher’s perceptions of collective efficacy to the school level (Ross et al., 2004).

Bandura (1997) found that collective teacher efficacy is a better predictor of student achievement than socioeconomic status. This finding aligns with the construct of general teacher efficacy (GTE), or a teacher’s ability to focus on the aspects of learning that are within her/his locus of control, like quality of instructional practices, as opposed to bemoaning factors that are beyond her/his control, like socioeconomic status. In fact, “with staffs who firmly believe that, by their determined efforts, students are motivatable and teachable whatever their background, schools heavily populated with minority students of low socioeconomic status achieve at the highest percentile ranks…” (Bandura, 1993, p. 143).

Ross et al. (2004) found that prior student achievement is a predictor of collective teacher efficacy. This study revealed that school processes that empower teachers, like shared school goals, opportunities for collaboration, strong school-based leadership, and initiatives that align with school needs, are correlated with collective teacher efficacy.

Leaders who foster collective teacher efficacy protect "teachers from the dysfunctional effects of negative emotional states (p. 178). While teachers with low TSE are prone to burnout, as manifested by chronic stress, physical and emotional exhaustion, and isolation, teachers with high TSE are motivated, persistent, and resilient (Bandura, 1993). Cansoy & Parlar (2018) found that TSE is a significant and positive predictor of collective teacher efficacy (p. 560). Leaders who invest in the development of individual TSE provide all teachers with opportunities for vicarious experiences and verbal persuasion through teacher leadership and collaboration. Thus, individual teacher efficacy can evolve into collective efficacy. Furthermore, Ross and Gray (2006) found that by positively impacting collective teacher efficacy, transformational leaders strengthen teachers' commitment to community partnerships and the school mission. This is consistent with research on the development of individual teacher efficacy. Leadership behaviors that foster individual teacher efficacy also sustain collective teacher efficacy (Bandura 1986). Therefore, by committing to structures that facilitate mastery experiences, vicarious experiences, verbal persuasion, and affective states, leaders can harness the generative power of TSE to impact student achievement for all students.

Research confirms that TSE is a construct that has measurable and sustainable impact on student achievement. While attributes like communication skills, goal orientation, and emotional self-efficacy provide a solid foundation for developing TSE, leaders can adopt approaches and implement structures that strengthen TSE among

individual teachers and, over time, expand a state of collective efficacy that elevates school culture and advances student learning.

REFERENCES

Aydoğmuş, M., & Serçe, H. (2021). Investigation of Regulatory Role of Collective Teacher Efficacy in the Effect of Job Satisfaction and Satisfaction with Life on Professional Burnout. Research in Pedagogy, 11(1), 234–250. https://doi.org/10.5937/istrped2101234a

Bandura, A. (1986). Social Foundations of Thought and Action: A Social Cognitive Theory. Prentice Hall.

Bandura, A. (1993). Perceived Self-efficacy in Cognitive Development and Functioning. Educational Psychologist, 28(2), 117–148.

Bandura, A. (1995). *Self-efficacy in Changing Societie*s. Cambridge University Press.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. W. H. Freeman.

Cansoy, R., & Parlar, H. (2018). Examining the Relationship between School Principals' Instructional Leadership Behaviors, Teacher Self-efficacy, and Collective Teacher Efficacy. *International Journal of Educational Management*, 32(4), 550–567. https://doi.org/10.1108/ijem-04-2017-0089

Chong, W. H., & Kong, C. A. (2012). Teacher Collaborative Learning and Teacher Self-Efficacy: The Case of Lesson Study. *The Journal of Experimental Education*, 80(3), 263–283. https://doi.org/10.1080/00220973.2011.596854

Choong, Y. O., Ng, L. P., Ai Na, S., & Tan, C. E. (2019). The Role of Teachers' Self-efficacy Between Trust and Organisational Citizenship Behaviour among Secondary School Teachers. *Personnel Review*, (ahead-of-print). https://doi.org/10.1108/pr-10-2018-0434

Çoban, Ö., Özdemir, N., & Bellibaş, M. Ş. (2020). Trust in Principals, Leaders' Focus on Instruction, Teacher Collaboration, and Teacher Self-efficacy: Testing a Multilevel Mediation Model. *Educational Management Administration & Leadership*, 174114322096817. https://doi.org/10.1177/1741143220968170

Dinçer, B. (2021). The Predictors of Senior Pre-service Teachers' Teacher Self-efficacy: Achievement Goal Orientations, and Communication Skills. *International Journal of Curriculum and Instruction*, 13(3) Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/predictors-senior-pre-service-teachers-teacher/docview/2608652125/se-2 Educator Turnover Has Markedly Increased, but Districts Have Taken Actions to Boost Teacher Ranks: Selected Findings from the Sixth American School District Panel Survey. (2023). https://doi.org/10.7249/rra956-14

Eells, Rachel Jean, (2011*). Meta-Analysis of the Relationship Between Collective Teacher Efficacy and Student Achievement* [Doctoral dissertation, Loyola University Chicago]. https://ecommons.luc.edu/luc_diss/133

Engin, G. (2020). An Examination of Primary School Students' Academic Achievements and Motivation in Terms of Parents' Attitudes, Teacher Motivation, Teacher Self-efficacy and Leadership Approach. *International Journal of Progressive Education*, 16(1), 257-276. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/examination-primary-school-students-academic/docview/2396844094/se-2

Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions. *Educational Researcher*, 33(3), 3–13. https://doi.org/10.3102/0013189x033003003

Goddard, R., Goddard, Y., Sook Kim, E., & Miller, R. (2015). A Theoretical and Empirical Analysis of the Roles of Instructional Leadership, Teacher Collaboration, and Collective Efficacy Beliefs in Support of Student Learning. *American Journal of Education*, 121(4), 501–530. https://doi.org/10.1086/681925

Goroshit, M., & Hen, M. (2014). Does Emotional Self-efficacy Predict Teachers' Self-efficacy and Empathy? *Journal of Education and Training Studies*, 2(3), 26-32. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/does-emotional-self-efficacy-predict-teachers/docview/1697497968/se-2

Hoy, A. W., & Spero, R. B. (2005). Changes in Teacher Efficacy During the Early Years of Teaching: A Comparison of Four Measures. *Teaching and Teacher Education*, 21(4), 343–356. https://doi.org/10.1016/j.tate.2005.01.007

Kasalak, G., & Dagyar, M. (2020). The Relationship Between Teacher Self-efficacy and Teacher Job Satisfaction: A Meta-analysis of the Teaching and Learning International Survey (TALIS). *Educational Sciences: Theory and Practice*, 20(3), 16-33. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/relationship-between-teacher-self-efficacy-job/docview/2458997353/se-2

Kara, A., Anagün, S. S., Boyaci, S. D., & Yasar, S. (2022). Investigating the Link Between Teachers' Perceptions of 21st Century Skills Efficiency and Students' Perceptions of Learning Experience: Mediating Role of Teacher's Self-efficacy. *Journal of Pedagogical Research*, 6(4), 50-65. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/investigating-link-between-teachers-perceptions/docview/2732137596/se-2

Kılınç, A. Ç., Bellibaş, M. Ş., & Bektaş, F. (2021). Antecedents and Outcomes of Teacher Leadership: the Role of Teacher Trust, Teacher Self-efficacy and Instructional Practice. *International Journal of Educational Management*, 35(7), 1556–1571. https://doi.org/10.1108/ijem-04-2021-0148

Kraft, Matthew A., and Melissa Arnold Lyon. (2022). The Rise and Fall of the Teaching Profession: Prestige, Interest, Preparation, and Satisfaction over the Last Half Century. (EdWorkingPaper: 22-679). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/7b1a-vk92

LoCasale-Crouch, J., Davis, E., Wiens, P., & Pianta, R. (2012). The Role of the Mentor in Supporting New Teachers: Associations with Self-Efficacy, Reflection, and Quality. *Mentoring & Tutoring: Partnership in Learning*, 20(3), 303–323. https://doi.org/10.1080/13611267.2012.701959

Mahmoodi, M. H., Hosseiniyar, S., & Samoudi, N. (2022). EFL Teachers' Classroom Management Orientation, Self-Efficacy, Burnout, and Students' L2 Achievement. *Profile: Issues in Teachers' Professional Development*, 24(1), 29–44. https://doi.org/10.15446/profile.v24n1.91153

Mazlum, F., Cheraghi, F., & Dasta, M. (2015). English Teachers' Self-efficacy Beliefs and Students Learning Approaches. *International Journal of Educational Psychology*, 4(3), 305. https://doi.org/10.17583/ijep.2015.1137

Narayanan, M., & Ordynans, J. G. (2021). Meaning Making and Self-Efficacy: Teacher Reflections through COVID-19. *The Teacher Educator*, 1–19. https://doi.org/10.1080/08878730.2021.1990455

Ross, J. A., Hogaboam-Gray, A., & Gray, P. (2004). Prior Student Achievement, Collaborative School Processes, and Collective Teacher Efficacy. *Leadership and Policy in Schools*, 3(3), 163-188. Retrieved from https://login.udel.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/prior-student-achievement-collaborative-school/docview/61908693/se-2

Saavedra, A. R., & Opfer, V. D. (2012). Learning 21st-Century Skills Requires 21st-Century Teaching. *Phi Delta Kappan*, 94(2), 8–13. https://doi.org/10.1177/003172171209400203

Saracoglu, M. (2022). Reflective Thinking and Inquiry Skills as Predictors of Self-Efficacy in Teaching Mathematics. *Problems of Education in the 21st Century*. 80(10). 213-231. http://dx.doi.org/10.33225/pec/22.80.213

Tschannen-Moran, M., Hoy, W.A. and Hoy, W.K. (1998), Teacher Efficacy: its Meaning and Measure. *Review of Educational Research*, Vol. 68 No. 2, pp. 202-248.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher Efficacy: Capturing an Elusive Construct. *Teaching and Teacher Education*, 17(7), 783–805. https://doi.org/10.1016/s0742-051x(01)00036-1

Wang, L. (2022). Exploring the Relationship Among Teacher Emotional Intelligence, Work Engagement, Teacher Self-Efficacy, and Student Academic Achievement: A Moderated Mediation Model. *Frontiers in Psychology*, 12. ttps://doi.org/10.3389/fpsyg.2021.810559

Yang, H. (2019). The Effects of Professional Development Experience on Teacher Self-efficacy: Analysis of an International Dataset Using Bayesian Multilevel Models. *Professional Development in Education*, 1–15. https://doi.org/10.1080/19415257.2019.1643393

Yoo, J. H. (2016). The Effect of Professional Development on Teacher Efficacy and Teachers' Self-Analysis of Their Efficacy Change. *Journal of Teacher Education for Sustainability*, 18(1), 84–94. https://doi.org/10.1515/jtes-2016-0007

Yost, D. S. (2006). Reflection and Self-Efficacy: Enhancing the Retention of Qualified Teachers from a Teacher Education Perspective. *Teacher Education Quarterly*, 33(4), 59–76. http://www.jstor.org/stable/23478871

Appendix B

Artifact 2

A Review of the Literature:

National Board Certification as a Model for Professional Learning

The National Board for Professional Teaching Standards (NBPTS) is an independent, nonprofit organization, established in 1987 by the Carnegie Forum on Education and the Economy (National Board for Professional Teaching Standards, 2023). The Carnegie Forum established NBPTS in response to the 1983 report, A Nation at Risk, which revealed the academic underachievement of American students measured by both national and international standards (United States, 1983). Highlighting structural deficiencies such as insufficient salaries and stifling bureaucracy, the Carnegie Forum sought to elevate the teaching profession by developing a certification process that would validate the knowledge and skills of accomplished teachers. The National Board standards are aligned with five core propositions: (1) Teachers are committed to students and their learning (2) Teachers know the subjects they teach and how to teach those subjects to students (3) Teachers are responsible for managing and monitoring student learning (4) Teachers think systematically about their practice and learn from experience (5) Teachers are members of learning communities.

To earn National Board Certification (NBC), teachers must demonstrate content knowledge through a computer-based assessment and demonstrate their knowledge of content and practice by completing three portfolio entries: Component 2: Differentiation in Instruction, Component 3: Teaching Practice and Learning Environment, and

Component 4: Effective and Reflective Practitioner. To complete the portfolios, teachers must collect artifacts, including video of their teaching and samples of student work, and compose extensive reflections on how their practices influence student learning. While the NBPTS website reports a pass rate of 71%, they do not disclose how many teachers achieve certification on their first attempt. This omission is significant because many NBC teachers report that they did not achieve certification on their first attempt, and the total cost to complete the process is $1900.00, or $475.00 for each component and submission. In 2019, there were 125,000 Board-certified teachers nationwide, with 2914 teachers achieving certification that year. Among those newly certified teachers, 55% taught in Title 1 schools, 569 were teachers of color (20%), and 42% taught in STEM schools (National Board for Professional Teaching Standards, 2023).

Many school districts provide candidates with financial and/or coaching support to complete the NBC process. NBPTS offers a Canvas course for candidates who are beginning the process and webinars for each portfolio component. Some universities have developed Master's degree programs that support candidates through the NBC process (Wilmington University, 2022).

In Maryland, recent legislation titled The Blueprint for Maryland's Future (2020) is based on the work of the Kirwan Commission, a group of stakeholders and lawmakers who developed policy recommendations that are guiding reforms in Maryland's school districts. The Blueprint includes five pillars for transforming Maryland Public Schools: Early Childhood Education, High Quality and Diverse Teachers and Leaders, College and Career Readiness, More Resources to Ensure That All Students are Successful, and

Governance and Accountability. The second pillar, High Quality and Diverse Teachers and Leaders, includes three strategies: raising teacher pay, improving teacher preparation programs, and establishing a career ladder for teachers. The Kirwan Commission identified NBC as a resource for developing and retaining highly qualified teachers; therefore, NBC is the primary path for teachers to advance on the career ladder. NBC teachers will receive a $10,000 salary increase, with an additional $7000 for NBC teachers who work in low performing schools. Furthermore, NBC teachers will be assigned reduced teaching schedules so that they can engage in teacher leadership activities and provide more individualized support to struggling learners (Maryland Public Schools, 2023).

Architecture of Accomplished Teaching

The National Board for Professional Teaching Standards uses the "Architecture of Accomplished Teaching" (AAT) to synthesize the complex and cyclical process of teaching. It is a helix-shaped illustration of the teaching process that aligns with the Five Core Propositions, and it appears in the standards for every Board certification content area (English Language Arts, Mathematics, Science, etc.) to establish a universal standard of accomplished teaching. The AAT outlines the following stages of planning, implementation, and evaluation:

1. Your students: Who are they? Where are they now? What do they need and in what order do they need it? Where should I begin?
2. Set high, worthwhile goals appropriate for these students, at this time, in this setting.

3. Implement instruction designed to attain those goals.
4. Evaluate student learning in light of the goals and the instruction.
5. Reflect on student learning, the effectiveness of the instructional design, particular concerns, and issues.
6. Set high and worthwhile goals that are appropriate for these students at this time.

The Architecture of Accomplished Teaching integrates instructional tenets posed by others. For example, *Understanding by Design* (McTighe & Wiggins, 2005), outlines three stages of planning: Identify Desired Results, Determine Assessment Evidence, and Plan Learning Experiences and Instruction. Black and Wiliam (2018) suggest the following model for organizing educational experiences: 1. Clear Aims, 2. Planning Activities, 3. Interaction in Dialogue, 4. Review of the Learning, 5. Assessment.

A distinguishing feature of the AAT is the emphasis on assessment and reflection that occurs at every stage of the process. The initial stage of the process (Your students: Who are they? Where are they now? What do they need and in what order do they need it? Where should I begin?) is grounded in assessment, and from that foundation, objectives are determined and learning experiences are designed. Wiliam (2016) describes this stage as starting "where the learner is, not where we would like the learner to be." As teachers move through stages 4 and 5, they engage in evaluation and reflection, gathering evidence from student work, "even though that information may be less than perfect" and providing feedback "that will move the student's learning forward" (p. 13). Thus, the final stage, setting new high and worthwhile goals, is the culmination of strategic assessment and informed reflection. As such, the stages of the AAT are closely

aligned with cycles of formative assessment, which include identifying learning needs, designing instruction, collecting evidence, evaluating learning, evaluating teaching, and improving learning (Birenbaum et al., 2009; Lee et al., 2020).

The interaction between teaching and learning is an iterative process that involves monitoring, collecting evidence, reflection, and decision making (Lee et al., 2020). The helix shape of the AAT demonstrates that the processes of teaching and learning are cyclical, rather than linear (Black & Wiliam, 2018). In a meta-analytic study of formative assessment, Lee et al. (2020) found that the two practices that have the most impact on student learning are medium-cycle formative assessment and student self-assessment. Medium-cycle formative assessment refers to evaluation and formal written feedback that occurs within and between instructional units. This evaluation also informs adjustments to planning. The AAT requires medium-cycle formative assessment because, throughout the process, evaluation and reflection inform instructional design and shape the learner's experience. Additionally, NBC candidates are evaluated on their ability to engage students in self-assessment. For example, for Component 2, Differentiation and Instruction, an English Language Arts candidate must demonstrate "that the teacher supports students' growth as interpreters of text and as writers and encourages students' self-assessment and self-reflection upon how their work can be improved" (National Board for Professional Teaching Standards, Adolescence and Young Adulthood/ English Language Arts, p. 15). Together, medium-cycle formative assessment and student self-assessment empower teachers to improve their practice and students to improve their

learning. This level of self-determination builds personal self-efficacy for both teachers and students.

Essentially, The NBC process evaluates teachers' abilities to evaluate and respond to students' learning needs. Teachers who achieve NBC experience teaching and learning as reciprocal processes that require ongoing assessment, reflection, and decision making. These complex processes are represented by the Architecture of Accomplished Teaching, a blueprint that illustrates the interactive and dynamic nature of the Five Core Propositions.

Research on impact of National Board Certification

Research on the impact of NBC on student learning has yielded mixed results. What Works Clearinghouse (WWC) is a source of scientific evidence that uses rigorous research standards to identify interventions and programs that influence student learning (U.S. Department of Education). WWC identified thirty-eight eligible studies on the impact of NBC on student learning. None of these studies were randomized controlled trials and therefore did not meet the WWC group design criteria. However, five quasi-experimental studies met the design criteria with reservations. In three of the five studies, the impact of NBC on math achievement was positive and statistically significant, but the other two studies did not find positive effects on achievement.

One of the studies with positive and significant findings was conducted in Washington State using student achievement data from the state adopted assessment and teacher data from the NBPTS (Cowan & Goldhaber 2016). The authors built on former studies by exploring heterogeneity among NBC teachers and within subgroups of

students. For example, they compared the student achievement data of teachers who achieved NBC on the first attempt with those who achieved on the second attempt. They also explored the impact of student learning related to teacher performance on NBPTS assessment and the type of assessment teachers completed, which is aligned with teachers' content areas. The data revealed a positive impact on math but not in ELA. However, the analysis revealed significant positive effects of NBC teachers on ELA achievement for students in the following subgroups: elementary students, FARMS in elementary schools, special education in elementary, middle school students, middle school students with teachers certified in Early Adolescence: English Language Arts, and students of teachers with EA/ELA certifications in middle school classrooms.

While Cowan and Goldhaber (2016) analyzed student achievement data, other studies relying on qualitative data suggest that NBC has a positive impact on how teachers perceive both their practice and their impact on student learning. These studies indicate that the NBC process strengthens teachers' instruction, makes teachers more open to feedback, builds professional confidence, and provides opportunities for professional collaboration (Jaquith et al., 2016; Lustick 2011; Park et al. 2007; Petty et al., 2016; Sullivan, 2010). Such professional experiences may improve teacher self-efficacy (TSE), and research has established a relationship between TSE and student learning (Eels, 2011). Therefore, by providing professional learning experiences that build TSE, NBC may influence student learning indirectly. According to Bandura (1993) TSE can be developed through mastery experiences, vicarious experiences, social persuasion, and affective states. Mastery experiences are personal performance

accomplishments, while vicarious experiences are derived from observing models of performance accomplishments. Social persuasion refers to influencing efficacy through suggestion, and affective states influence efficacy through emotional arousal. These elements are embedded within the NBC process (Jaquith et al., 2016; Lee et al., 2020; Lustick, 2011; Park et al., 2007; Sullivan, 2010).

Teachers pursuing NBC may benefit from vicarious experiences, social persuasion, and affective states by collaborating with mentors and other candidates. Many school systems offer support for NBC candidates that provides time for collaboration. Due to schedule and time constraints, collaboration among teachers is often limited. This is especially true in high schools, where teachers often work within the silos of their departments and do not have common planning with their departmental colleagues. Both Jaquith et al. (2016) and Park et al. (2007) found that NBC shifted teaching from a private practice to a collaborative experience. Colleagues who embark on the NBC process together support one another as motivators, mentors, leaders, and human resources (Park et al., 2007). As teachers break from the confines of their classrooms to observe and learn from one another, affective states improve through safe transparency and a shared vision of student-centered instruction. Teachers experience success vicariously and benefit from social persuasion when they have opportunities to observe one another and provide feedback (Jaquith et al., 2016). In fact, Park et al. (2007) found that teachers pursuing NBC were sustained by a shared "belief that the NBC process would contribute to improving student learning" (p. 381). Likewise, Sullivan (2010) found that NBC candidates developed a common vocabulary around "evidence of

student learning and differentiation of their instruction," two pillars of the NBC process, and reported implementing these practices "at a much deeper level" (p. 42). Therefore, NBC can be an effective intervention for underperforming schools, particularly when cohorts of candidates have access to support and opportunities to grow together (Jaquith et al., 2016). By providing support that includes collaborative learning, the NBC process can build TSE through social persuasion, vicarious experiences, and affective states.

NBC may also provide professional learning that leads to mastery experiences for teachers, which can also build TSE. Professional learning that develops mastery is content focused and job embedded (Darling-Hammond et al., 2017; Lustick, 2011). Pedagogical content knowledge (PCK) refers to a teacher's knowledge of content for the purpose of teaching, or "the ways of representing and formulating the subject that make it comprehensible to others" (Shulman, 1986, p. 8). NBC teachers leverage their PCK to address students' learning needs, demonstrating mastery of both teaching procedures and content. The stages of the AAT are closely aligned with cycles of formative assessment, which include identifying learning needs, designing instruction, collecting evidence, evaluating learning, evaluating teaching, and improving learning (Lee et al., 2020; Birenbaum et al., 2009; Wiliam, 2016). These cycles immerse teachers in student learning and provide mastery experiences as teachers learn through trial and error (Bandura, 1977). As candidates refine their instruction by reflecting on student learning, their confidence improves (Sullivan, 2010). Petty et al. (2016) found that most NBC teachers believed that the NBC process improved their practice. Likewise, Lustick (2011) surveyed science teachers who completed the NBC process to discover how they

perceived NBC compared to other professional learning experiences. The participants rated both NBC and writing science curriculum as the professional learning experiences that were most meaningful. Like curriculum writing, the NBC process is inherently relevant to each candidate because it is so closely aligned to practice. Candidates use their own students to develop portfolio entries. Eighty percent of respondents reported that the NBC process positively influenced their ability to advance student learning, and 91% said the process had a significant impact on their teaching practice. In contrast, the participants ranked school provided professional learning as the least effective professional learning experience. These studies indicate that the NBC process provides teachers with opportunities for mastery experiences because the process is embedded within each teacher's practice. Mastery experiences strengthen TSE, which can positively influence student learning.

Studies indicate that teachers perceive NBC as a professional learning experience that improves their instructional practice and their feelings of efficacy, factors which influence student learning. Teachers who experience efficacy believe in their abilities to advance student learning through classroom management, instructional strategies, and student engagement (Wang, 2022). Although research exploring the impact of NBC on student learning has produced mixed results, many studies confirm the positive correlations between teacher efficacy and student learning (Kurt et al., 2014; Mazlum et al., 2015; Mohammad et al., 2022; Wang 2021; Woolfolk & Spero, 2000). It may be that the influence of NBC on achievement is indirect and takes time to manifest.

The Blueprint: National Board Certification as Professional Learning

To inform recommendations for The Blueprint for Maryland's Future, the Kirwan Commission consulted the National Center for Education and the Economy (NCEE), a nonprofit organization that conducts global research on successful school systems to inform policy recommendations in the United States (Blueprint, 2024). The NCEE has developed a framework of successful educational systems based on the practices of four high performing global systems (Finland, Shanghai, Singapore, Ontario) and three states (Massachusetts, New Jersey, New Hampshire). According to the NCEE, "The top-performing countries have reorganized schools so that the best teachers lead teams of teachers, mentor new teachers, and research new practices, with teachers going up merit-based career ladders getting more responsibility, authority, status, and compensation as they get better and better at the work" (Hise & McConville, 2020, p. 7). Based on this finding, the Kirwan Commission developed a career ladder as part of their policy recommendations for Policy Area 2: High Quality and Diverse Teachers and School Leaders. Therefore, the Blueprint for Maryland's Future has prioritized NBC as the path through which teachers advance along the career ladder.

The process of NBC and the Blueprint's vision of teacher leadership are supported by research on both effective professional learning and teacher efficacy. According to Darling-Hammond et al. (2017), effective professional learning for teachers includes seven design elements: content focus, active learning, collaboration, use of models and modeling, coaching and expert support, feedback and reflection, and sustained duration. These elements are evident in the Five Core Propositions and in the tasks teachers complete for the four components (Component 1: Content Knowledge,

Component 2: Differentiation in Instruction, Component 3: Teaching Practice and Learning Environment, and Component 4: Effective and Reflective Practitioner). Furthermore, the elements of effective professional learning design also reflect Bandura's (1997) conditions for developing teacher self-efficacy: mastery experience, vicarious experience, social persuasion and affective states.

The NBC process is aligned with the content that teachers teach. Content focused professional learning is job-embedded, grounded in student work, and aligned with curriculum (Darling-Hammond et al., 2017). This alignment provides teachers with a sense of coherence as they learn strategies that are immediately applicable to their work with students. To achieve NBC candidates must take standardized tests that measure their knowledge of content and pedagogy. Research on student misconceptions and their impact on learning supports the importance of teachers' content knowledge (Shulman, 1986). Teachers must possess abundant content knowledge to anticipate and proactively address students' misconceptions. In addition to completing standardized tests, teachers' content knowledge is assessed throughout the NBC process as they demonstrate their knowledge of curriculum, their ability to analyze student work, and their capacity to design instruction that addresses students' needs. This process activates and integrates the three sources of knowledge from which teachers pull: subject matter knowledge, pedagogical content knowledge, and curricular knowledge (Shulman, 1986). Unlike traditional professional learning, the National Board does not give teachers more content; rather, teachers use their own content to reflect upon their practice. Studies show that teachers with accurate content knowledge tend to develop strong pedagogical content

knowledge (PCK), which leads to teaching proficiency. This happens gradually, with novice teachers relying mostly on pedagogical knowledge (PK), or general instructional strategies, as they learn classroom management. However, once they have mastered classroom management, novices with strong content knowledge (CK) will begin making connections between CK, instructional strategies, and classroom management. This leads to the development of PCK, "which provides a platform for further development towards excellence and mastery" (Kind & Chan, 2019, pp. 8-9).

Likewise, the NBC process allows teachers to learn actively. Professional learning that is "active" leverages teachers' experiences, provides choice, and is guided by reflection and inquiry (Darling-Hammond et al., 2017). Because the content of NBC is derived from the context of teachers' classrooms, candidates are actively engaged in problem solving, decision making, and reflection as they navigate the certification process. In fact, content-focused professional learning alone is not as effective as "PD that links content learning to pedagogies supporting teachers' students and practice" (Darling-Hammond et al.2017, p. 7). This is consistent with Shulman's (1987) conception of PCK. The National Board process integrates content knowledge and pedagogy in a manner designed to empower teachers to advance student learning. According to Shulman (1986), the effective teacher "is not only a master of procedure but also of content and rationale, and capable of explaining why something is done" (p. 13). Therefore, the NBC process strengthens teachers' sense of mastery and influence, which develops their self-efficacy beliefs (Bandura, 1993).

Additionally, the NBC process requires teachers to think reflectively about their

practice. Effective professional learning has "built-in time for teachers to think about, receive input on, and make changes to their practice by providing intentional time for feedback and/or reflection (Darling-Hammond et al., 2017, p. 14). While mastery experiences build self-efficacy, mastery experiences do not build themselves. Rather, mastery experiences are the result of "experience in overcoming obstacles through perseverant effort" (Bandura, 2008, p. 169). In fact, feedback and reflection build mastery by helping teachers develop expertise through trial and error (Darling-Hammond et al., 2017). In Component 4 of National Board Certification, teachers demonstrate their knowledge of students by using assessment data to reflect upon student learning and plan instruction that advances learning. In their written reflections, teachers respond to questions that help them evaluate their instruction through the lens of student learning. For example, teachers provide detailed, written responses to the following questions:

- How did you apply the knowledge you accumulated through the multiple sources you consulted and the unit assessments to future instruction with this class? Be sure to cite specific examples.
- How effective were your efforts to develop knowledge about the class of students you selected? In the future, what different approaches or additional steps might you take to further enhance your knowledge of students and why? (Early Adolescence–Adolescence and Young Adulthood/English Language Arts: Portfolio Instructions and Scoring Rubric, pp. 14-15).

Like content knowledge, which establishes a strong foundation for mastery experiences, reflection and feedback build on mastery experiences over time by providing a

framework for teachers to learn from both successes and failures.

While the NBC process is an individual endeavor, many Board candidates experience collaboration, modeling, and coaching through candidate support programs. These programs are often offered by school districts and function as temporary professional learning communities (PLCs) to guide candidates through the NBC process. However, the vision presented by the Blueprint for Maryland's Future, in which "the best teachers lead teams of teachers, mentor new teachers, and research new practices, with teachers going up merit-based career ladders getting more responsibility, authority, status, and compensation as they get better and better at the work" takes NBC from an individual experience to a collective experience, and, therefore, individual teacher efficacy to collective teacher efficacy. (Maryland Commission of Innovation & Excellence in Education, 2020, p. 7).

According to Darling-Hammond et al. (2017), professional learning communities (PLCs) offer a model that can integrate the seven elements of effective professional learning design. PLCs align with the Blueprint's vision of NBC teachers leading teams of teachers in "ongoing, job-embedded learning that is active, collaborative, and reflective" (Darling-Hammond et al., 2017, p. 17). Like the NBC process, PLCs led by NBC teachers should be grounded in student work so that teachers can "develop a common understanding of what good work is, what common misunderstandings students have, and what instructional strategies may or may not be working and for whom" (Darling-Hammond et al., 2017, p. 17). Furthermore, the collaborative aspect of PLCs allows for vicarious experiences as teachers who might be less experienced, or perhaps just less

skilled, have opportunities to observe teacher leaders as they teach lessons, analyze student work, or reflect upon their practice (LoCasale-Crouch et al., 2012).

The vision presented by the Blueprint also provides opportunities for coaching and expert support. National Board Certified teachers will receive reduced teaching schedules so that they can lead professional learning (Hise, 2021). This will address two major barriers to implementing effective professional learning: quality and fidelity (Darling-Hammond et al.2017). Traditional school schedules do not provide time for teachers to engage in collaborative learning or mentoring. By mandating reduced teaching schedules for NBC teachers, the Blueprint is creating space for teacher leaders to design and deliver professional learning that is "sustained, offering multiple opportunities for teachers to engage in learning around a single set of concepts or practices" (Darling-Hammond et al. 2017, p. 15). Furthermore, according to Kılınç et al. (2021), teachers who participate in leadership activities report higher levels of self-efficacy. These teacher leaders can positively influence their colleagues through social persuasion, vicarious experiences, and affective states (Bandura, 1997). Thus, through teacher-led PLCs that incorporate the processes of National Board Certification, individual teacher efficacy will develop into collective efficacy as teachers "pool their knowledge, skills, and resources and act in concert to shape their future" (Bandura, 2008, p. 170).

Reimagining Professional Learning in Cecil County Public Schools

Although research indicates that professional learning experiences improve teacher self-efficacy when those experiences are voluntary and selected by the teachers

based on their professional goals, the most common forms of professional learning are required by supervisors rather than teacher-selected (Yang, 2019). At the system level, barriers to effective professional learning include identifying teachers' learning needs, choosing effective professional learning approaches, implementing professional learning with quality and fidelity, and evaluating the effectiveness of professional learning (Darling-Hammond et al.2017, p. 21-22). All four of these barriers are evident in Cecil County Public School's (CCPS) approach to professional learning.

Currently, district leadership has provided supervisors and principals with a document titled "Professional Development Expectations" to provide guidance around the development and implementation of professional learning. The guidance includes links to professional learning standards (Professional Standards for Educational Leaders, Learning Forward and NBC standards for teachers), dates that have been allotted for full day professional learning, and some guidance (list of bulleted statements) for planning professional learning communities. Six school days are allotted for professional learning, and those six days are divided between content coordinators, who plan professional learning that is aligned with curriculum and student data on content specific assessments, and building principals, who plan professional learning related to broader topics, like social emotional learning, that apply to all teachers. A third source of professional learning is the Student Services department, which mandates professional learning on broad topics (social emotional learning, restorative practices) that competes with the professional learning provided by principals and coordinators. Usually, at least one of the professional learning days is slated as an inclement weather make up day and is

eventually canceled.

There is a significant disparity between the amount of professional learning time allotted to content specific learning versus the general topics offered by building principals and Student Services. In addition to three of the six full days, principals are expected to provide professional learning twice a month. It is suggested that principals align learning goals with school improvement plans and/or Student Services content, use student data, and collaborate with others (teachers, content coordinators) as they design professional learning. In contrast, content coordinators receive three of the full professional learning days and sporadic opportunities to provide voluntary professional learning before or after school. Therefore, significantly more time is allotted for professional learning that is required and unrelated to teachers' contents, whereas time for content-focused professional learning is limited and often voluntary.

This contradicts the work of Darling-Hammond et al. (2017), who found that effective professional learning is content focused and creates a "coherence for teachers, as opposed to having PD compete with differing school and district priorities" (p. 5). CCPS's current guidance for administrators sets the stage for competing initiatives that can result in an incoherent experience. For teachers, the experience of professional learning may be captured by the following African proverb: When elephants fight, it is the grass that suffers.

The purpose of this project is to propose a new professional learning model for CCPS schools that is aligned with the vision presented by the Blueprint for Maryland's Future (specifically, Policy Area Two: High Quality and Diverse Teachers and Leaders),

is informed by research on teacher efficacy, and incorporates the processes of National Board Certification. The Blueprint for Maryland's Future not only requires professional learning that is job-embedded and ongoing, but also aligned with curriculum materials (Cecil County Public Schools, 2023). Starting in third grade, teachers work in content-specific departments (ELA, mathematics, science, social studies, etc.). The proposed model provides professional learning that is informed by student learning, operationalized by teachers, and supported by school and district leadership. From grades three through twelve, priority should be given to professional learning that is content focused, grounded in student work, and experienced through the process of collaborative inquiry. Following the process of the Architecture of Accomplished Teaching, professional learning should "aim at cultivating an assessment culture in school so that inquiry becomes a 'habit of mind' that plays a leading role in the quest for improvement (Birenbaum et al., 2009, p. 140) At the secondary level (grades six through twelve) this will require restructuring time allotted for professional learning from two full days of "sit and get" to a PLC structure that allows for ongoing action research and collaboration.

In contrast with top down approaches to professional learning, which places district leadership at the top and students at the bottom, the proposed model places students at the top. Teachers will collaboratively engage in the analysis of student work and data to discern their own professional learning needs. Coordinators will provide professional learning support that is aligned with the curriculum, and principals will provide the structure, like common planning time, to support professional learning. Finally, instead of generating content from the top and pushing it down to teachers,

executive leadership will establish the process through which professional learning content is generated based on the needs of students.

References

Bandura, A. (1993). Perceived Self-efficacy in Cognitive Development and Functioning. *Educational Psychologist*, 28(2), 117–148.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. W. H. Freeman.

Bandura, A. (2008). An agentic perspective on positive psychology. In S. J. Lopez (Ed.), *Positive Psychology: Exploring the best in people, Vol. 1. Discovering human strengths* (pp. 167–196). Praeger Publishers/Greenwood Publishing Group.

Birenbaum, M., Kimron, H., Shilton, H., & Shahaf-Barzilay, R. (2009). Cycles of inquiry: Formative assessment in service of learning in classrooms and in school-based professional communities. *Studies in Educational Evaluation*, 35(4), 130–149. https://doi.org/10.1016/j.stueduc.2010.01.001

Black, P. J., & Wiliam, D. (2018). Classroom assessment and pedagogy. *Assessment in Education*, 25(3). https://doi.org/10.1080/0969594X.2018.1441807

Blueprint. (2024). NCEE. https://ncee.org/blueprint/

Cecil County Public Schools. (2023). Blueprint for Maryland's Future: Initial Implementation Plan. Maryland State Department of Education. https://www.ccps.org/Page/4615

Cowan, J., & Goldhaber, D. (2016). NBC and Teacher Effectiveness:

Evidence from Washington State. *Journal of Research on Educational Effectiveness*, 9(3), 233–258.

Darling-Hammond, L., Hyler, M. E., Gardner, M. (2017). Effective Teacher Professional Development. Palo Alto, CA: Learning Policy Institute. https://doi.org/10.54300/122.311.

Hise & McConville (2020). *Blueprint for Maryland's Future: Final Report*. Department of Legislative Services, Office of Policy Analysis. https://dls.maryland.gov/pubs/prod/NoPblTabMtg/CmsnInnovEduc/2020-Final-Report-of-the-Commission.pdf

Jaquith, A., Snyder, J., & Bristol, T. (2016). Turning Schools Around: The NBC Process as a School Improvement Strategy. Stanford, CA: Stanford Center for Opportunity Policy in Education.

Kind, V. and Chan, K.K.H. (2019) 'Resolving the Amalgam: Connecting Pedagogical Content Knowledge, Content Knowledge and Pedagogical Knowledge.' *International Journal of Science Education*. 41 (7). 964-978.

Kılınç, A. Ç., Bellibaş, M. Ş., & Bektaş, F. (2021). Antecedents and Outcomes of Teacher

Leadership: the Role of Teacher Trust, Teacher Self-efficacy and Instructional Practice. *International Journal of Educational Management*, 35(7), 1556–1571. https://doi.org/10.1108/ijem-04-2021-0148

Kurt, H., Güngör, F., & Ekici, G. (2014). The Relationship among Teacher Efficacy, Efficacy Regarding Teaching, and Responsibility for Student Achievement. *Procedia - Social and Behavioral Sciences*, 116, 802-807.

Lee, H., Chung, H. Q., Zhang, Y., Abedi, J., & Warschauer, M. (2020). The Effectiveness and Features of Formative Assessment in US K-12 Education: A Systematic Review. *Applied Measurement in Education*, 33(2), 124–140. https://doi.org/10.1080/08957347.2020.1732383

Lustick, D. (2011). Experienced secondary science teachers' perceptions of effective professional development while pursuing National Board certification. *Teacher Development*. 15(2), 219-239. https://doi.org/10.1080/13664530.2011.571511

Mahmoodi, M. H., Hosseiniyar, S., & Samoudi, N. (2022). EFL teachers' classroom management orientation, self-efficacy, burnout, and students' l2 achievement. *Profile: Issues in Teachers' Professional Development*, 24(1), 29–44. https://doi.org/10.15446/profile.v24n1.91153

Maryland Public Schools. (2023). The Blueprint for Maryland's Future. https://marylandpublicschools.org/Blueprint/Pages/default.aspx

Mazlum, F. Cheraghi, F. Dasta, M. (2015). English Teachers' Self-Efficacy Beliefs and Students

Learning Approaches: the Role of Classroom Structure Perception. *International Journal of Educational Psychology*, 4(3), 305-328. doi: 10.17583/ijep.2015.1137

National Board for Professional Teacher Standards. (2023).

Retrieved from https://www.nbpts.org/about/mission-history/

National Board for Professional Teacher Standards. Adolescence and Young Adulthood/ English

Language Arts: Portfolio Instructions and Scoring Rubric. (2023). Retrieved from https://www.nbpts.org/certification/candidate-center/first-time-and-returning-candidate-resources/

Petty, T. M., Good, A. J., & Handler, L. K. (2016). Impact on student learning: National Board Certified Teachers' perspectives. *Education Policy Analysis Archives*. 24(49).http://dx.doi.org/10.14507/epaa.24.2227

Park, S., Oliver, S., Johnson, T., Graham, P. & Oppong, N. (2007). Colleagues' roles in the professional development of teachers: Results from a research study of National Board certification. *Teaching and Teacher Education*. 23, 368-389. https://doi.org/10.1016/j.tate.2006.12.013

Shulman, L. (1986). Those Who Understand: Knowledge Growth in Teaching. Educational Researcher, 15(2), 4–14.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. Harvard Educational Review, 57, 1–22.

U.S. Department of Education, Institute of Education United States. National Commission on Excellence in Education. (1983). A Nation at Risk: the Imperative for Educational Reform. Washington, D.C.: The National Commission on Excellence in Education.

U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse.

Wang L. (2022) Exploring the Relationship Among Teacher Emotional Intelligence, Work Engagement, Teacher Self-Efficacy, and Student Academic Achievement: A Moderated Mediation Model. *Frontiers in Psychology*. 12:810559. doi: 10.3389/fpsyg.2021.810559

Wiggins, G. P., & McTighe, J. (2005). Understanding by Design (2nd ed.). Pearson.

Wiliam, D. (2016). The Secret of Effective Feedback. ASCD. https://www.ascd.org/el/articles/the-secret-of-effective-feedback

Wilmington University (2022). National Board Certified Teacher, Master of Education. Retrieved from https://www.wilmu.edu/education/instruction-national-board-certified-teacher-master-curriculum.aspx

Woolfolk Hoy, A. & Spero Burke R. (2005). Changes in teacher efficacy during the early years of teaching: A comparison of four measures. *Teaching and Teacher Education*. 21, 343-356. https://wps.ablongman.com/wps/media/objects/2347/2404137/TATE%202005%20Spero.pdf

Yang, H. (2019). The Effects of Professional Development Experience on Teacher Self-efficacy: Analysis of an International Dataset Using Bayesian Multilevel Models. *Professional Development in Education*, 1–15. https://doi.org/10.1080/19415257.2019.1643393

Appendix C

ARTIFACT 3

TEACHER PROFESSIONAL LEARNING SURVEY (PRE AND POST IMPLEMENTATION)

Sources for Survey Questions:

NBC: 5 Propositions	Bandura: Teacher Self Efficacy
1. Proposition 1: Teachers are committed to students and their learning. 2. Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students. 3. Proposition 3: Teachers are responsible for managing and monitoring student learning. 4. Proposition 4: Teachers think systematically about their practice and learn from experience. 5. Proposition 5: Teachers are members of learning communities.	A. Mastery Experiences B. Social Persuasion C. Vicarious Experiences D. Affective States

Survey Questions:

1. Professional learning provided by Cecil County Public Schools improves my instruction. (1, 2, 3, 4, A, D)

2. Professional learning provided by Cecil County Public Schools improves student learning. (1, 2, 3, 4, A, D)

3. Professional learning provided by Cecil County Public Schools is aligned with the content I teach. (2, A)

4. Professional learning provided by Cecil County Public Schools improves my understanding of the content I teach. (2, A)

5. Professional learning provided by Cecil County Public Schools incorporates my current students' learning data, both formative and summative. (1, 3)

6. Professional learning provided by Cecil County Public Schools involves sustained collaboration with other teachers who share my content and/or students. (5, B, D)

7. Professional learning provided by Cecil County Public Schools includes opportunities for me to observe my colleagues. (5, B, C)

8. Professional learning provided by Cecil County Public Schools includes models of effective instruction. (2, C)

9. Professional learning provided by Cecil County Public Schools includes opportunities for me to receive feedback on my practice. (5, B, D)

10. Professional learning provided by Cecil County Public Schools allows time for me to reflect upon the impact of my instruction on student learning. (1, 3, 4, A)

Response Options:

Always, Usually, Sometimes, Never

Appendix D

ARTIFACT 4

PROFESSIONAL LEARNING MODEL

Professional Learning Community Model:

Cecil County Public Schools, Secondary ELA

The following Professional Learning Community (PLC) models are based on both the Architecture of Accomplished Teaching (AAT) from the National Board for Professional Teaching Standards and the work of DuFour and Reeves (2016), who suggest structuring PLC work around the following four questions: 1. What do students need to learn? 2. How will their learning be assessed? 3. How will we address what they have not learned? 4. How will we meet the needs of students who have learned?

I suggest two models, identical in structure but varied in content. The first model is designed for teachers who teach the same grade level and are implementing the curriculum as intended for content and pacing. These teachers can work within their assigned grade level, comparing common work samples and instructional strategies. Most middle school teachers will be able to work within this model. However, high school teachers usually teach multiple grade levels and demonstrate more variance in adherence to the curriculum. These teachers might instead work vertically by selecting one standard to analyze and monitor across grade levels.

Each model balances teacher collaboration with independent application and professional learning. During the five-stage cycle, teachers collaborate for a total of four

hours to review student data, evaluate curricular resources, and identify professional learning needs (stages 1 and 3). Two hours of professional learning are embedded within the cycle (stages 2 and 4). This professional learning may be provided by the district via a learning management system. However, teachers might also request peer observations as a professional learning experience. District leaders review teacher surveys (stages 1 and 3) to curate professional learning options that align with teachers' needs. In stage 5, teachers reassess students and use this data to cycle back to stage 1. This model replicates the cyclical processes of teaching and learning that are outlined in the AAT.

Grade Level Meeting
Teachers teach same grade and work with grade level partners

Stage 1: Collaboration- 2 Hours

Who are our students? Where are they now?

- First meeting:
  - Create baseball card report in PM using MAP and MCAP data
- Subsequent meetings:
  - Create current reports with updated data (MAP fall/winter)
  - Review data for curriculum assessments (summative and/or formative)

What do students need to learn?

- Identify focus standards and benchmark essay for upcoming unit.
  - Brainstorm: What knowledge and skills must students demonstrate to complete this task?

How will their learning be assessed?

- Identify formative assessments in the unit guide.
  - Are they aligned with the benchmark task?
  - Do we need to adjust and/or differentiate the learning activities?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 2: Application

- Teach lessons

- Embedded Professional Learning, 1 Hour (district provided content, observation)

Stage 3: Collaboration- 2 Hours

How will we address what they have learned?

- Bring range of student work samples to meeting to reflect levels of proficiency
  - What knowledge or skills were students able to demonstrate?
  - What misconceptions, wrong information, or skill deficiencies did students demonstrate?
  - What teaching approaches or strategies worked for students?
  - What teaching approaches or strategies did not work for students?

How will we address what they have not learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who have not learned?
- Do we need to reteach concepts?
- How can we differentiate instruction using evidence-based strategies?

How will we meet the needs of students who have learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who are demonstrating proficiency? How can we accelerate or enrich instruction using evidence-based strategies?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 4: Application

- Teach lessons
- Embedded Professional Learning, 1 Hour (district provided content, observation)

Stage 5: Reassess and use data to cycle back to Stage 1

Vertical Meeting

Teachers across grade levels working as a vertical team
(middle school: 6-8; high school: 9-12)

Stage 1: Collaboration- 2 Hours

Who are our students? Where are they now?

- First meeting:
  - Create baseball card report in PM using MAP and MCAP data
- Subsequent meetings:

- Review reports to reflect upon growth
- Create current reports with updated data (MAP fall/winter)

What do students need to learn?

- Identify common standard from Reading Literary Text, Reading Informational Text, Writing (informative, argumentative, or narrative) or Language
  - Brainstorm: What knowledge and skills must students acquire to demonstrate mastery of this standard?

How will their learning be assessed?

- Identify assessments (formative and summative) in curriculum. Select one to share with the department.
- How do the assessments align across grade levels?
- What strategies do we use at each grade level to prepare students for the assessments?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 2: Application

- Teach lessons
- Embedded Professional Learning, 1 Hour (district provided content, observation)

Stage 3: Collaboration- 2 Hours

How will we address what they have learned?

- Bring range of student work samples to meeting to reflect levels of proficiency
  - What knowledge or skills were students able to demonstrate?
  - What misconceptions, wrong information, or skill deficiencies did students demonstrate?
  - What teaching approaches or strategies worked for students?
  - What teaching approaches or strategies did not work for students?
  - What resources or professional learning do we need at this time?

How will we address what they have not learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who have not learned?
- Do we need to reteach concepts?
- How can we differentiate instruction using evidence-based strategies?

How will we meet the needs of students who have learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who are demonstrating proficiency?
- How can we accelerate or enrich instruction using evidence-based strategies?

What resources or professional learning do we need at this time? • Complete professional learning request form
<u>Stage 4: Application</u> • Teach lessons • Embedded Professional Learning, 1 Hour (district provided content, observation)
<u>Stage 5: Reassess and use data to cycle back to Stage 1</u>

Appendix E

Artifact 5

Presentation to Executive Directors

Restructuring of Professional Development in CCPS

Spring 2023

1

Challenge: Retention and Efficacy

District wide data

- 16% non-tenured (202 non-tenured employees and 1084 tenured)
- 3% of teaching staff conditionally certified (48 conditional teachers)

Elementary

- 6 conditionally certified teachers

Secondary ELA

- 15 teachers left in 21-22 and 9 were replaced
  - 5 of these teachers were uncertified in Secondary ELA

2

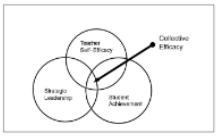
What is needed NOW?

Collective efficacy is the "new number one" influence on student achievement (Hattie, 2016)

Collective efficacy outweighs the influence of socioeconomic status on student achievement (Bandura 1997)

3

As teachers in a school feel empowered to do great things, great things happen. If they feel powerless, and believe they cannot surmount the obstacles in front of them, they will be less likely to persist when challenged, and will not expend as much effort (Eells, 2011, pp. 4-5)



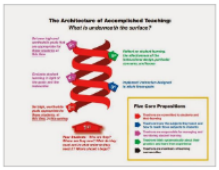
4

Teacher Self Efficacy

- Mastery Experiences
- Vicarious Experiences (effective models)
- Social Persuasion
- Affective States

5

National Board Certification and Teacher Self Efficacy



Agency
+
Reflection
=
Mastery Experiences

6

From Teacher Self Efficacy to Collective Efficacy

- Mastery Experiences
- Vicarious Experiences (effective models)
- Social Persuasion
- Affective States

NBCT Process

PLCs Grounded in NBC Process

7

Where are we now (nationally)?

Declining regard for teachers has "led to repeated efforts to raise instructional quality by controlling teacher practices with top-down management and standardization, diminishing teachers' autonomy and disregarding their expertise" (Kraft & Lyon, 2022, p. 2)

https://www.edworkingpapers.com/sites/default/files/Kraft%20Lyon%202022%20State%20of%20the%20Teaching%20Profession_0.pdf

8

The Blueprint for Maryland's Future

"Policy efforts to reverse the trend of top-down control over teachers' practice and develop meaningful career ladders might be promising areas for policy innovation. This is not to say that teachers should be left alone in their classroom or expected to develop curricular materials on their own. Such practices can lead to inconsistent instruction, professional isolation, and burnout (Johnson & Birkland, 2003). Instead, efforts to support teachers through coaching, professional learning communities, and peer observation and review programs might create the conditions, and develop the skills, teachers need to feel successful with their students and ensure the profession maintains high standards" (Kraft & Lyon, 2022, p. 36)

9

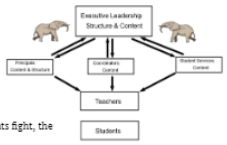
What are the elements of effective PD design?

- Content Focus
- Active learning
- Collaboration
- Use of Models and Modeling
- Coaching and Expert Support
- Feedback and Reflection
- Sustained Duration

Darling-Hammond, 2017

10

Current PD Structure



When elephants fight, the grass suffers.
-African proverb

11

Ongoing, Monthly Professional Development

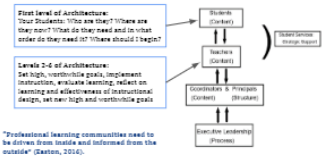
Elementary	Secondary
Meetings Dates OR Wednesdays • Activities aligned to School improvement plan; CCPS Strategic Themes • Collaborate with Coordinators • Grading and Reporting • Team Planning Meetings • Parent Outreach • Data Analysis	Meet twice a month (bi-weekly) • Activities aligned to School Improvement Plan and initiatives • Collaborate with lead teachers Examples: SPED, ESOL, Test Prep, AVID, EOS, PSI, Data Analysis, Grading and Reporting, etc. (based on school needs)

Darling Hammond: "effective professional development is content focused and creates a coherence for teachers, as opposed to having PD compete with differing school and district priorities" (p. 5).

The Blueprint for Maryland's Future not only requires professional learning that is job-embedded and ongoing, but also aligned with curriculum materials.

12

Proposed Model



13

But haven't we been doing PLCs forever?

"Although many schools around the world have claimed to embrace the professional learning community (PLC) process, it would be more accurate to describe the current state of affairs in many schools as PLC Lite. Educators rename their traditional faculty or department meetings as PLC meetings, engage in book studies that result in no action, or devote collaborative time to topics that have no effect on student achievement — all in the name of the PLC process. These activities fail to embrace the central tenets of the PLC process and won't lead to higher levels of learning for students or adults."

DuFour & Reeves, 2016

14

Central Tenets of the PLC Process

- Work in collaborative teams, take collective responsibility for student learning
- Work within the parameters of a guaranteed and viable curriculum
- Use an assessment process that includ formative assessment aligned with the curriculum
- Use assessment results to improve student learning AND instruction
- Create a system of interventions for students who struggle

DuFour & Reeves, 2016

15

Middle School Pilot (select schools):

- Summer 2023
  - Teachers participate in content-related PD
  - Admin participate in PD related to PLC structure
- August PD day: explore student data, action research models, and PD resources (on Schoology) with department/grade level partners
- Develop tentative plan for first marking period
- October PD day: day off (7 PD hours will be distributed throughout the year for one hour, after school PLC meetings. These meetings will take the place of department meetings)
- Weekly meetings during team planning (middle school)

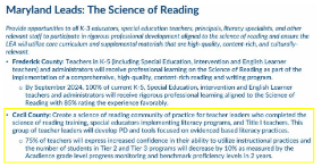
16

Elementary Math Pilot (TEES):

- Summer 2023 - Admin participate PD about the PLC Structure
- August PD day: Teachers explore PLC structure as part of PD
- Pilot schools are provided suggested topics
- As much as possible all PD will flow through the PLC with my support as well as the coaches

17

Dr. Choudhury and Dr. Collins CCPS MD Lead Highlight



Maryland Leads: The Science of Reading

Provide opportunities to all K-3 educators, special education teachers, principals, literacy specialists, and other relevant staff to participate in rigorous professional development aligned to the science of reading and ensure the LEA will utilize core curriculum and supplemental materials that are high-quality, content rich, and culturally-relevant.

- **Frederick County:** Teachers in K-5 (including Special Education, Intervention and English Learner teachers) and administrators will receive professional learning on the Science of Reading as part of the implementation of a comprehensive, high-quality, content-rich reading and writing program.
  - By September 2024, 100% of current K-5, Special Education, intervention and English Learner teachers and administrators will receive rigorous professional learning aligned to the Science of Reading with 85% rating the experience favorably.
- **Cecil County:** Create a science of reading community of practice for teacher leaders who completed the science of reading training, special education implementing literacy programs, and Title I teachers. This group of teacher leaders will develop PD and tools focused on evidenced based literacy practices.
  - 75% of teachers will express increased confidence in their ability to utilize instructional practices and the number of students in Tier 2 and Tier 3 programs will decrease by 10% as measured by the Acadience grade level progress monitoring and benchmark proficiency levels in 2 years.

18

Elementary ELA Pilot

- Spring 2023 presented opportunity to 1st Edition BW administrative teams and teachers
  - Develop over the summer a PLC structure integrating curriculum based coaching from U of D and architecture of accomplished teaching from CCPS coaches
- Summer 2023 - Admin participate PD about the PLC Structure
- After training of 1st Edition in August, train teacher leaders in PLC structure on Coordinator Wednesday (virtual and in-person)
- If needed, use either MD Lead Community of Practice funds or County PD hours to extend to after school if needed to include travel for in person and appropriate amount of time for learning
- Teacher leaders facilitate school based PLCs on team planning Wednesdays or Wednesday of choice based on administrative and teacher school teams

19

Future Considerations and Next Steps

- Teachers are provided PD options based on need
- A Yearly PD hour requirement is established (18 hours) in lieu of full PD days
  - This requires some negotiation to discuss early dismissal and built in PD days, flexibility to have off if PD is done after hours or during the summer
- Ways we can support teachers with PD that provides pathways to meet their learning
  - Summer Gala
  - Schoology modules
  - Voluntary, self-selected PD (conferences, etc)
  - Mentoring a preservice teacher or new teacher
  - Service on committees
  - Presenting to colleagues
  - School Based PDT (Ask them to use the PLC structure to not conflict?)
- New Teacher PD will need to be considered as they may take a different path

20

Appendix F

ARTIFACT 6

SCHOOLOGY MODULE

Purpose:

The Elkton Middle School Professional Learning Community (EMS PLC) Schoology Module provides participants with a digital platform designed to guide, organize, and document their learning experiences.

Structure:

The EMS PLC home page presents the following information:

- Norms for Learning and Collaboration: The selected norms (AEIOU) align with a current school initiative.
- Overview of the PLC Process: This overview explains how the PLC model aligns with the Blueprint for Maryland's Future and the National Board Certification process. The overview also includes an image of the Architecture of Accomplished Teaching to illustrate the connection between the PLC cycles and the National Board Certification process. Finally, on this page participants will also find an explanation of how the PLC model may differ from previous PLC experiences.
- PLC Cycle: A table for each of the two PLC cycles is displayed. The tables outline stages of the PLC process, and meeting dates are highlighted.

- Cycles 1 and 2 Folder: This folder contains working documents and learning resources that inform and structure professional learning.
    - PLC Process Guide: A Google Slides presentation that serves as an interactive template for each PLC meeting. The presentation includes agendas, directions for learning, and learning activities.
    - Evidence of Learning: This folder contains a link to a folder in Google Drive where participants submit PLC work. The folder currently contains student work analysis worksheets that participants completed during the October 20 and November 10 PLC meetings.
    - PD Resources: This folder contains three subfolders with content used to plan and deliver professional learning:
        - Student Work Analysis Protocol: Teachers used this document to analyze student work samples, diagnose learning needs, and plan differentiated instruction. This process, along with other data sources, informed the choices teachers made on the professional learning request form.
        - Professional Learning Request Forms: Participants completed a Google Form at the end of each PLC session (excluding the final session) to request professional learning topics. Options for professional learning reflect content on evidence-based practices that has been developed at the district level and is available in the

Secondary ELA Schoology Group. Teachers can also select "other" and request a topic that is not listed.

- PD Content: This folder contains the content that I shared with participants in response to their requests for professional learning. Teachers requested professional learning on the following topics:
    - Writing to Learn
    - Writing Checklists and Task Analysis
    - Prompt Analysis and Writing Better Tie Ins
    - Mentor Texts
    - Integrating Creative Writing into the Curriculum
    - Research Based Vocabulary Instruction
    - CCPS Literacy Strategy Overview
        - This document is a summary of the professional learning on evidence based practices that the district has offered over the course of five years. It is stored in the PD Content folder as a reference guide.

Appendix G

ARTIFACT 7

PLC OBSERVATION TOOL

This artifact builds on Artifacts 2 and 4. It incorporates both the NBPTS's Architecture of Accomplished Teaching and the DuFour and Reeves (2016) criteria for effective PLCs into an observation tool. The purpose of this artifact was to monitor the productivity of PLC work based on the alignment of teachers' interactions with the observation tool criteria. Alignment with the tool would provide some evidence about the extent to which teachers are using student learning to inform for their own learning. PLCs occurred on August 30, October 6, October 20, November 10, and January 26 from 1:00 to 3:00 p.m. Attendees included the seven Elkton Middle School English Language Arts (ELA) teachers and myself. One exception is November 10. For this session, the secondary ELA instructional coach attended in my place to facilitate the PLC and use the observation tool.

Over the 5 PLC sessions held during the 2023-2024 school year, I used the tool 4 times (August 30, October 6, October 20, January 26). I trained the instructional coach for secondary ELA to use the tool during the November 10 session. The training session involved an explanation of the tool, a review of the data collected for the August 30 PLC session, and a discussion about the types of data to record (quotes from conversations, descriptions of practice). Each PLC session included the following activities:

1. Review norms and present agenda

2. Professional learning based on teachers' requests from previous session
3. Review of student data
4. Collaborative planning

For this pilot, I facilitated the first two activities and then used the observation tool to collect data while teachers engaged collaboratively in activities three and four. The seven teachers stayed in the same classroom but collaborated with their grade level partners. During data collection, I observed one grade level at a time.

The observation tool, notes taken during the PLC sessions, and results from data collection are below.

Observation Tool

PLC Monitoring Tool

The purpose of this form is to monitor the productivity of PLC work based on the alignment of

teachers' interactions with the Architecture of Accomplished Teaching (NBPTS) and DuFour and

Reeves's (2016) criteria for effective PLCs. Alignment will indicate the extent to which teachers are using student learning as the impetus for their own learning.

1. Does the work of the PLC reflect the Architecture of Accomplished Teaching? Check all that apply.
   - Your Students: Who are they? Where are they now? What do they need and in what order do they need it?

- Set high, worthwhile goals appropriate for these students, at this time, in this setting. Implement instruction designed to attain those goals.
- Evaluate student learning in light of the goals and the instruction.
- Reflect on student learning, the effectiveness of the instructional design, particular concerns, and issues.
- Set new high and worthwhile goals that are appropriate for these students at this time.

Capture specific behaviors that align with the items checked above.

2. Does the work of the PLC reflect DuFour and Reeves's (2016) central tenets of the PLC process? Check all that apply.
   - Work together in collaborative teams rather than in isolation and take collective responsibility for student learning.
   - Establish a guaranteed and viable curriculum that specifies the knowledge, skills, and dispositions students are expected to acquire, unit by unit.
   - Use an assessment process that includes frequent, team-developed, common formative assessments based on the guaranteed and viable curriculum.
   - Use the results of common formative assessments to identify students' learning needs (additional support and/or enrichment)
   - Use the results of common formative assessments to evaluate strengths and weaknesses in teaching.

- Create a system of interventions that guarantees that students who struggle receive additional time and support in ways that do not remove them from new direct instruction, regardless of the teacher to whom they have been.

Capture specific behaviors that align with the items checked above.

Results

Part I: Does the work of the PLC reflect the Architecture of Accomplished Teaching?

Date of PLC Session	Comments
8/30/23	• Teachers create baseball cards for each class with assessment data and then summarize the data on a Google Slide. • "Wow, these kids are all over the place." • "How do I categorize a kid who performed differently on different measures?" (for ex., MAP vs. grades) • "This student started the year strong but then her performance declined." • "I would put her as a watch." • "Six kids who were in honors last year are in my on level class." • "If it seems like they can do it with support, I put them in warning." • "Some kids just tank on standardized assessments." • "I like doing this at the beginning of the year because I can see what each class looks like and I wouldn't take time to do this on my own."
10/6/23	• Discuss requirements of writing task • Shared ideas about what worked (for example, explicit modeling, Google translate for ELs) • Identified instructional strategies to meet students at each level
10/20/23	• Two teachers discuss strategies for unpacking a prompt; other teachers plan independently. • “We need to be a better job to make sure our prompts have these elements. So will you do this in place of a note-taking activity?” (Casey)

	• “We could make this into a checklist. • “This will lead them into writing a claim.” • “I still like this though because it's going to give depth to the writing.” (Vickie and Jessica) • Discussed moving units around with Shermelle to build skills more strategically • 6th grade- Planning for Red Kayak, creating an interactive notebook, switching from physical binder to digital notebook- students will use this as a "writing to learn" tool • Embed anchor chart- use after each lesson • Victoria- imported assessment into PM, Looking at final essay • Adjusting formative assessments so that they are text based.
11/10/23	• "I noticed that almost half of my class missed ___" • "I want to think about how to get them to transfer skills from one assignment to the next." • Talking about the nuances in student writing and what qualifies as meeting vs. partially meeting expectations • "Let's try to focus on how to actually explain the evidence instead of just summarizing the whole story."
1/26/24	• Comparing winter MAP data with fall • “I still have kids struggling with basic comprehension.” • “I spent a lot of time going over the prompt.” • “They ask me a lot of obvious questions- like what page number.” • “Maybe we need to go over these vocabulary words.” • “They have a claim and a set up but no explanation.” • “Maybe the reason they can't explain is because they can't understand the prompt.” • “They didn't get down the types of adversity.” • “I made this chart and they just keep it in their journal.” • “They like the readings but they don't understand diversity, so this insert is like a cheat sheet.” • “This way they can apply the concept every time they read.” • “They're low for honors.”

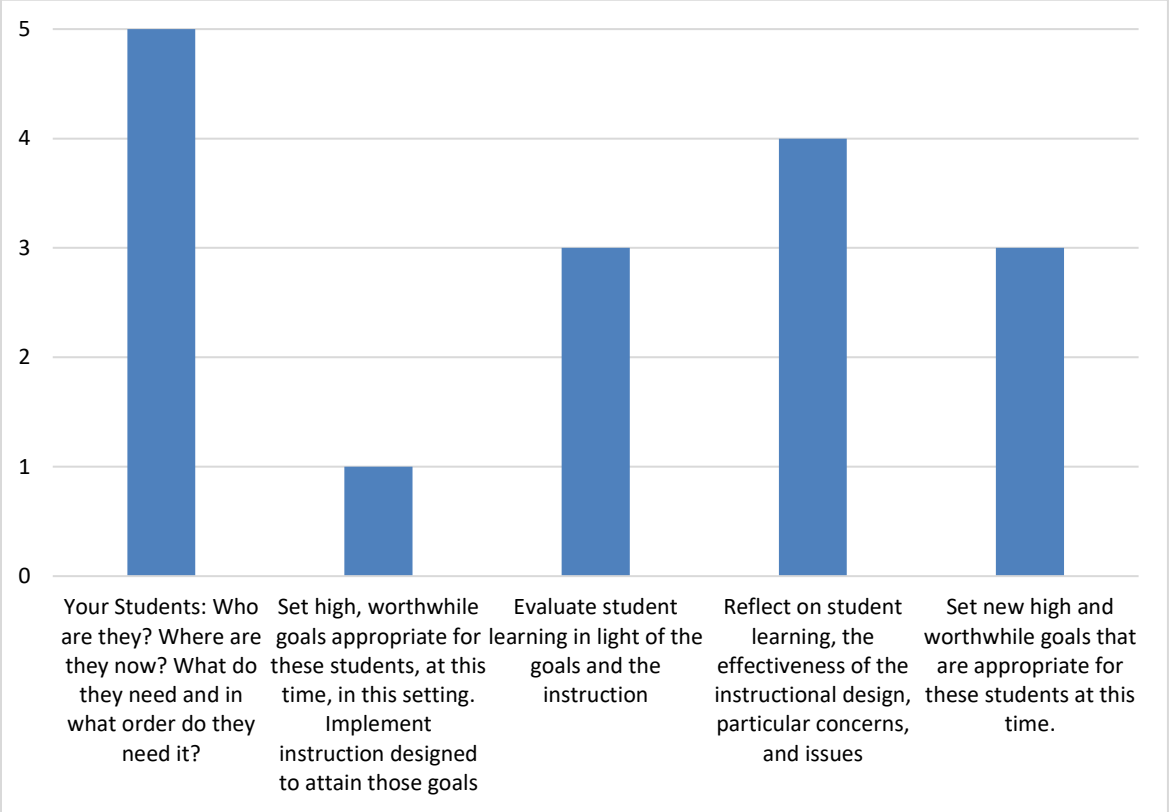
Part II: Does the work of the PLC reflect DuFour and Reeves's (2016) central tenets of the PLC process?

Date of PLC Session	Comments
8/30/23	• Worked together from 8:00 am- 11:00 am • Identify gaps between unit skills and skills assessed throughout the unit • "That skill is assessed in the anchor chart." • "The struggle was that kids couldn't pull the separate, smaller writing assessments into a larger task." • Teachers referring back to data slides • Veteran teacher sharing perspective- "They need to work on stamina; they might need to struggle a little bit."
10/6/23	• Used student work analysis protocol, unpacked the requirements of the writing task • Identified what students understand (they summarized the story- grade 7) • Discussion about when to require direct quotes vs. summarized/paraphrased evidence (grade 8) • Grade 7- Inconsistent use of punctuation, lack of variety in introductions, students did answer the question. • Grade 8- "They understood the character more than just a surface level." • "Some kids made decent connections but didn't include all the parts of a CSET." (grade 8) • "Some kids just wrote summaries." (grade 8) • Grade 6- "They knew that it was one or the other, but they guessed wrong." • "Sometimes they gave too much summary instead of...." • "…quoting too much text instead of relevant text." • "They need to elaborate on their evidence instead of using just one or two words." • "…or they didn't pick the best quote." • "…not a complete response." • "…not connecting the evidence." • "…restating the claim instead of explaining." (grade 6)

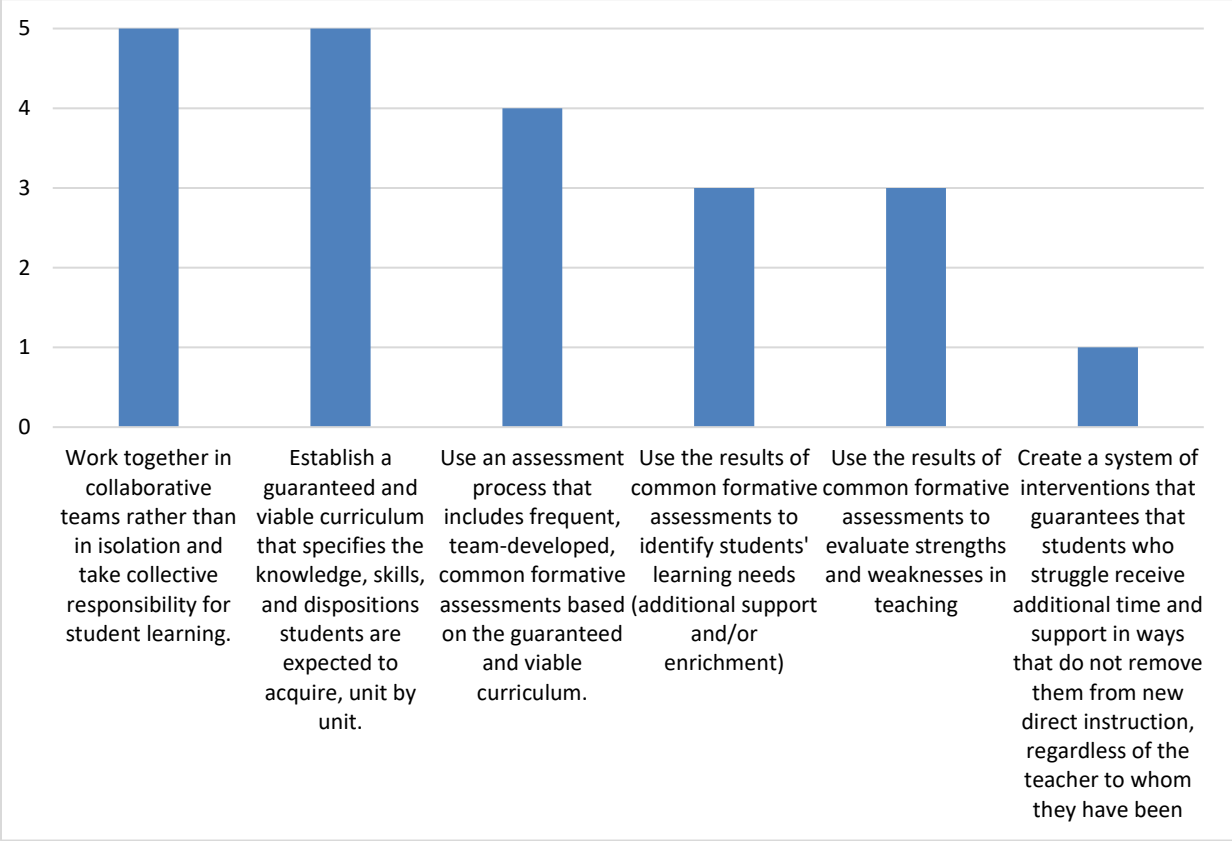
	• “My students with IEPS are still struggling with the basics; but my onlevel students are ready to step up to compound sentences.” • Grade 8 instructional implications: Repetition and practice for sentence construction, options for how to like...(couldn't hear) • “Maybe just challenges, like ‘add a semicolon to your writing.’”
10/20/23	• Most teachers are starting new units and developing materials based on what they learned about students during the first MP • Grade 6- digital notebooks • Grade 7- revising formative assessments • Grade 8- switching the order of units and coming up with a strategy for unpacking prompts.
11/10/23	• Looking at common assessment and finding patterns ("x% of students struggled with tie in"), "In the next unit, we're going to address that skill already, so..." • "I think that those students who met the expectations were doing a really nice job of organizing their ideas." • "I feel like I've done this strategy over and over...what else can I do instead?"
1/26/24	• “I feel like sometimes they write better when they have to write it out on paper.” • Shermelle worked on her own- the lone multi-grade teacher. • “So we could do a quiz and then a mini lesson on…” • “We have good class discussions, but they miss the nuances when they do the poem analysis on their own.” (8) • “They don't want to highlight the words in the prompt, they don't think it will help them.” (6) • “I'm confused about this part of the lesson.” • “I was thinking about making this assessment a formative.” • Modified lesson- pick one topic instead of jigsaw, or pick one to model and then they pick one to do on their own. • “What if you did some comparisons- like use the 6th grade characters- how did they solve their mysteries (Red Kayak) and use that to compare with Sherlock Holmes.” • “Bowman- can you remind me what RAFT stands for?” (MIni) • “I think that would be a good strategy for this objective.” • “You could teach elements of a mystery and use that to compare texts.” • “What formatives did you do with this unit?” (8). • “My students did pretty well on the essay.” • 8th grade team talking about planning logistics- how many days, “Should we cut some articles....”

Data represent the sum of responses across all 5 PLC sessions.

Part I: Does the work of the PLC reflect the Architecture of Accomplished Teaching?



Part II: Does the work of the PLC reflect DuFour and Reeves's (2016) central tenets of the PLC process?



Results

To better understand the trends, I grouped the criteria for both the Architecture of Accomplished Teaching and DuFour and Reeves's (2016) central tenets of the PLC process by frequency of observed practices across all five PLC sessions.

For 5/5 of the PLC sessions, the observer noted teacher practices that aligned with the following criteria:

- Architecture of Accomplished Teaching

    - Your Students: Who are they? Where are they now? What do they need and in what order do they need it?
- DuFour and Reeves (2016)
    - Work together in collaborative teams rather than in isolation and take collective responsibility for student learning.
    - Establish a guaranteed and viable curriculum that specifies the knowledge, skills, and dispositions students are expected to acquire, unit by unit.

For 4/5 of the PLC sessions, the observer noted teacher practices that aligned with the following criteria:

- Architecture of Accomplished Teaching
    - Reflect on student learning, the effectiveness of the instructional design, particular concerns, and issues
- DuFour and Reeves (2016)
    - Use an assessment process that includes frequent, team-developed, common formative assessments based on the guaranteed and viable curriculum.

For 3/5 of the PLC sessions, the observer noted teacher practices that aligned with the following criteria:

- Architecture of Accomplished Teaching
    - Evaluate student learning in light of the goals and the instruction.
- DuFour and Reeves (2016)

    - Use the results of common formative assessments to identify students' learning needs (additional support and/or enrichment)
    - Use the results of common formative assessments to evaluate strengths and weaknesses in teaching

For 1/5 of the PLC sessions, the observer noted teacher practices that aligned with the following criteria:

- Architecture of Accomplished Teaching
    - Set new high and worthwhile goals that are appropriate for these students at this time
- DuFour and Reeves (2016)
    - Create a system of interventions that guarantees that students who struggle receive additional time and support in ways that do not remove them from new direct instruction, regardless of the teacher to whom they have been

Discussion

This observation tool provided insight into teachers' practices during the five PLC sessions and the extent to which their practices aligned with the Architecture of Accomplished Teaching and DuFour and Reeves's (2016) central tenets of the PLC process.

In all of the PLC sessions, teachers' practices were collaborative and grounded in both their students' learning data and the established curriculum. The PLC Process Guide, which was presented at the beginning of each session, established collaboration as

an expectation. Likewise, the Secondary English Language Arts Department has a required curriculum that includes a pacing guide for each grade level. This increased the likelihood that grade-level teachers would be teaching the same units at the same time, thus providing opportunities for collaborative planning and reflection. Furthermore, Cecil County Public Schools uses a data management platform that allows teachers to access both historical and current learning data. These expectations and resources ensured that teachers would be able to collaborate using student data and a common curriculum.

In most of the PLC sessions, teachers referenced common formative assessments and reflected on student learning and instructional practices. At this level of collaboration, teachers evaluated the alignment of the formative assessments with the summative, end of unit assessments and discussed the challenges that students experienced with the instructional design of the units. For example, teachers discussed how students struggle to identify the demands of a writing prompt and strategies, like vocabulary development and checklists, for making writing tasks more accessible. While teachers reflected on their students' learning challenges and investigated alternative instructional approaches, they did not reflect upon the quality of the instruction associated with the assessment.

In a few of the PLC sessions, teachers used the results of common formative assessments to identify students' learning needs and identify the strengths and weaknesses of their instructional practices. Stage three of the PLC Cycle required teachers to use a student work analysis protocol to analyze student responses to a

common assessment, identify students' learning needs, reflect on instructional practices, and plan differentiated instruction to meet learning needs.

Observation notes show that teachers identified trends in student responses (inconsistent use of punctuation; lack of variety in introductions; they understood the character more than just a surface level; some kids made decent connections but didn't include all the parts of a CSET; some kids just wrote summaries; they knew that it was one or the other; but they guessed wrong; sometimes they gave too much summary instead of....;quoting too much text instead of relevant text; they need to elaborate on their evidence instead of using just one or two words).

Observation notes also show that teachers considered some implications for whole group instruction based on the formative data (repetition and practice for sentence construction; maybe just challenges, like "add a semicolon to your writing"; I feel like I've done this strategy over and over...what else can I do instead?; so we could do a quiz and then a mini lesson on…). However, observation notes show less evidence of teachers developing strategic instruction for small groups of students or individual students.

In 1/5 of the PLC sessions, teachers translated their collaborative analysis and reflection into setting new learning goals for students that included a system of interventions. Only one note from the observation tool, recorded during the October 6 session, aligns with these criteria (identified instructional strategies to meet students at each level). While Cecil County Public Schools (CCPS) has implemented a multi-tiered system of supports (MTSS) in elementary schools, secondary schools have received minimal guidance and training for developing MTSS. Therefore, secondary ELA teachers

focus on delivering tier one instruction while tier three instruction is reserved for Students with Disabilities and is implemented by special educators, exclusively. At the secondary level, interventions are not aligned with grade level curriculum.

Recommendations:

The results of the PLC Observation Tool show that the secondary ELA program provides the structures and resources to facilitate PLCs that are collaborative and grounded in both student data and an established curriculum. This allows teachers to analyze data from common formative assessments, reflect on student learning and instruction, and plan modifications to tier one instruction that address students' learning needs. However, the secondary ELA program cannot provide the structure and resources to facilitate teachers' capacity to develop individual learning goals that can be addressed through a system of interventions. This would require that CCPS executive leadership make adjustments to the secondary schedule and an investment in both interventions and professional learning for content teachers related to those interventions. Therefore, I recommend that CCPS develops an MTSS model for secondary schools that involves all teachers, not just special educators, along with interventions that align with and supplement tier one curriculum.

Limitations:

One limitation of this study is the sample size, which included seven ELA teachers from one middle school. Another limitation is the subjectivity of the observers, myself and the Instructional Coach for Secondary ELA. Finally, because the seven participating teachers met in the same classroom, the observer could only listen to one

grade level at a time (for example, the pair of teachers who teach 6th grade). Therefore, the notes represent a sampling of the PLC activity.

Appendix H

ARTIFACT 8

SUMMARIZED ANALYSIS OF TEACHER PROFESSIONAL LEARNING SURVEY, PRE AND POST IMPLEMENTATION

Purpose of Survey

The ten-question survey (Artifact 3) was designed to evaluate teachers' perceptions of professional learning (PL) before and after implementation of the PL model in this project. The survey was administered to participants on August 30, 2023, the first day of the project, and again on January 26, 2024, the final day of the project. All but one of the items are aligned with both the Five Core Propositions of the National Board for Professional Teaching Standards (NBPTS) and Bandura's (1997) conditions for developing teacher self-efficacy (TSE). Therefore, the first survey results indicate the extent to which the traditional Cecil County Public Schools (CCPS) PL model aligns with the NBC process and with conditions that develop teacher efficacy and the second survey evaluates the pilot model. I expected that, after participating in the pilot PL model, teachers' perceptions of PL would reflect increased alignment with Bandura's constructs and the NBC process.

NBPTS: 5 Propositions	Bandura: Teacher Self Efficacy
1. Proposition 1: Teachers are committed to students and their learning. 2. Proposition 2: Teachers know the subjects they teach and how to teach those subjects to students. 3. Proposition 3: Teachers are responsible for managing and monitoring student learning. 4. Proposition 4: Teachers think systematically about their practice and learn	A. Mastery Experiences B. Social Persuasion C. Vicarious Experiences D. Affective States

from experience. 5. Proposition 5: Teachers are members of learning communities.	

Method

I used purposive sampling to select study participants, who represent the range of teaching experience in the larger district-wide Secondary English Language Arts (ELA) department: conditional certification, non-tenured, and tenured. Prospective teachers are granted a two-year conditional license when they do not meet all of the requirements for certification. Tenure is granted to teachers who complete three years of successful teaching within the same school district, and teachers who are within the three-year probationary period are considered non-tenured. Additionally, when a teacher who achieves tenure with a school district is hired by another district, that teacher must complete one full school year as a non-tenured teacher before resuming tenured status.

The ELA department at Elkton Middle School includes seven teachers, two sixth grade teachers, two seventh grade teachers, two eighth grade teachers, and one multi-grade teacher. All teachers consented to participate.

Teacher	Grade	Employment Status
1	6	Non-tenured
2	6	Conditional
3	7	Non-tenured
4	7	Non-tenured
5	8	Tenured

6	8	Tenured
7	Multi-grade	Tenured

Survey Instrument

Each of the ten survey items are declarative statements that address the efficacy, relevance, and quality of district provided professional learning. Respondents rate the veracity of each statement by selecting one of the following multiple-choice options: Always, Usually, Sometimes, Never.

The survey was deployed on August 30, 2023, the first day of the project, and again on January 26, 2024, the final day of the project. On both days, teachers completed the surveys during the last five minutes of the sessions.

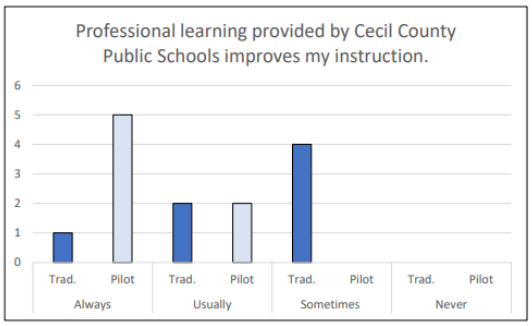
Results

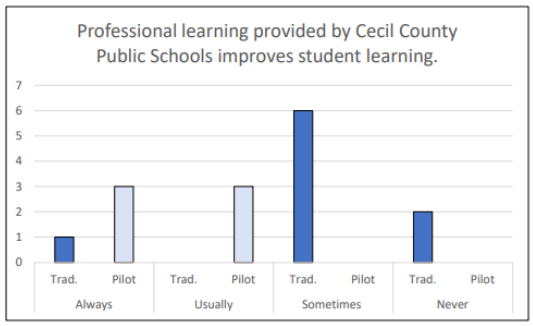
Survey results were aggregated to describe the frequency of responses by item.

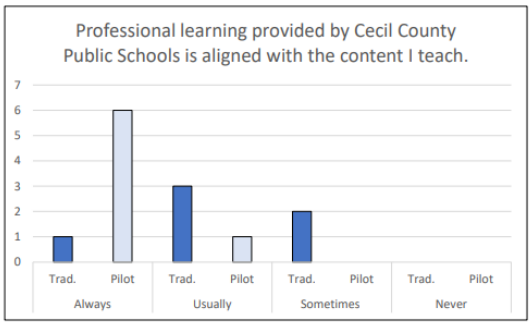
		Always		Usually		Sometimes		Never	
		Trad.	Pilot	Trad.	Pilot	Trad.	Pilot	Trad.	Pilot
1	Professional learning provided by Cecil County Public Schools improves my instruction.	1	5	2	2	4	0	0	0
2	Professional learning provided by Cecil County Public Schools improves student learning.	1	3	0	3	6	0	2	0
3	Professional learning provided by Cecil County Public Schools is aligned with the content I teach.	1	6	3	1	2	0	0	0

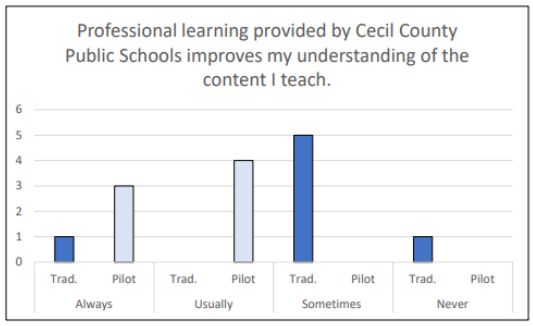
4	Professional learning provided by Cecil County Public Schools improves my understanding of the content I teach.	1	3	0	4	5	0	1	0
5	Professional learning provided by Cecil County Public Schools incorporates my current students' learning data, both formative and summative.	1	4	0	2	3	1	3	0
6	Professional learning provided by Cecil County Public Schools involves sustained collaboration with other teachers who share my content and/or students.	1	5	2	2	3	0	1	0
7	Professional learning provided by Cecil County Public Schools includes opportunities for me to observe my colleagues.	1	0	0	2	1	2	5	3
8	Professional learning provided by Cecil County Public Schools includes models of effective instruction.	1	4	2	3	3	0	1	0
9	Professional learning provided by Cecil County Public Schools includes opportunities for me to receive feedback on my practice.	1	2	1	3	1	1	4	1
10	Professional learning provided by Cecil County Public Schools allows time for me to reflect upon the impact of my instruction on student learning.	1	6	1	1	5	0	0	0

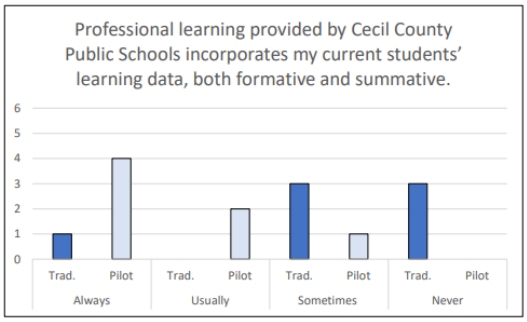
The graphs below represent responses at each of the two survey periods. No data are missing, but in some cases there were zero responses of that type.

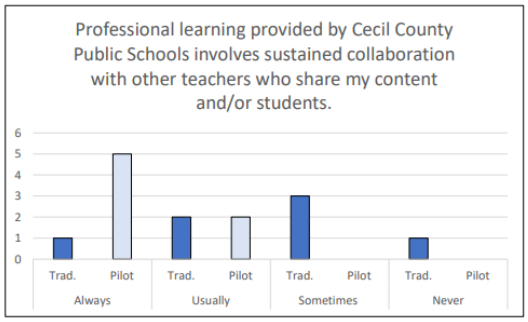

Professional learning provided by Cecil County Public Schools improves my instruction.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never

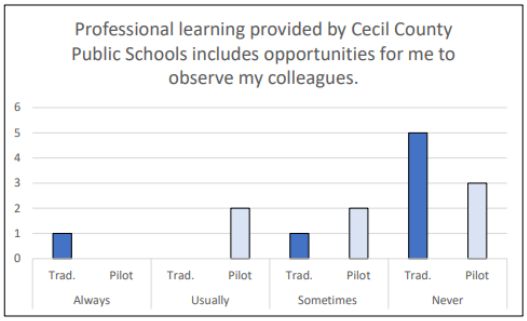

Professional learning provided by Cecil County Public Schools improves student learning.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never

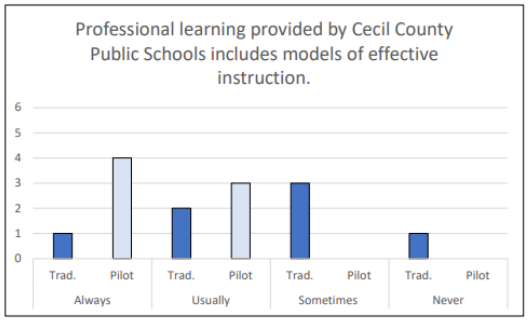

Professional learning provided by Cecil County Public Schools is aligned with the content I teach.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never

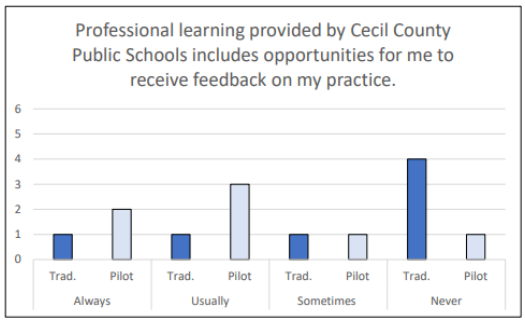

Professional learning provided by Cecil County Public Schools improves my understanding of the content I teach.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never

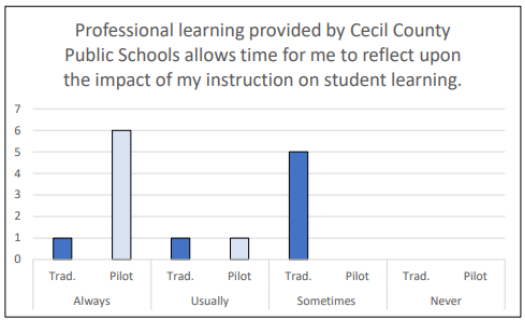

Professional learning provided by Cecil County Public Schools incorporates my current students' learning data, both formative and summative.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never


Professional learning provided by Cecil County Public Schools involves sustained collaboration with other teachers who share my content and/or students.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never


Professional learning provided by Cecil County Public Schools includes opportunities for me to observe my colleagues.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never


Professional learning provided by Cecil County Public Schools includes models of effective instruction.
Trad. Pilot Trad. Pilot Trad. Pilot Trad. Pilot
Always Usually Sometimes Never





Results

I represented the responses as means to better understand the trends. Responses to items aligned with NBC propositions 1-4 and Bandura's notion of mastery experiences include items 1, 2, and 10, and ranged from .8 and 1.8 for traditional PL, or between never and usually, as compared to 2.2 to 2.8 for the pilot PLC, or between usually and always.

Responses to items aligned with proposition 5 of NBC and Bandura's notion of social persuasion include items 6, 7, and 9, and ranged from .5 and 1.8 for traditional PL, or between never and usually, as compared to .8 to 2.8 for the pilot PLC, or between never and always.

Responses to items aligned with Bandura's notions of vicarious experiences or affective states included items 1, 2, 6, 7, 8 and 9, and ranged from .5 and 1.4 for traditional PL, or never and usually, as compared to .8 to 2.7 for the pilot PLC, or between sometimes and always.

Discussion

This survey provided insight into teachers' perceptions of two professional learning models. In the traditional model, CCPS district or building leaders selected PL topics and delivered content during scheduled meeting times. In Secondary ELA, these

meetings consisted of 2-3 full-day PL sessions, two at the beginning of the school year and one during the school year. The traditional PL model was not job embedded nor was it explicitly related to "these students, at this time, in this setting," as outlined in the NBPTS's Architecture of Accomplished Teaching (National Board for Professional Teaching Standards, 2023). In contrast, the PLC pilot was designed to align with the conditions that might develop TSE and the process of NBC.

I expected that teachers' responses to the surveys would indicate that the PLC pilot was more aligned with the conditions that develop TSE and the NBC process than traditional PL. Overall, respondents found the PLC model to be more relevant and impactful than traditional PL. Survey results show that the most significant difference in teachers' perceptions of the traditional and pilot PL models were related to NBC propositions 1-4 and Bandura's notion of mastery experiences. Propositions 1-4 describe teacher attitude (committed to students and their learning), capacity (know the subjects they teach and how to teach them) and practice (responsible for managing and monitoring student learning, think systematically about their practice and learn from experience). The pilot PLC process was grounded in analyzing student learning data, identifying students' learning needs, and requesting PL content that aligned with students' learning needs. This job embedded process may have improved teachers' understanding of their students and the curriculum. Such improved understandings can raise teachers' outcome expectations, leading to mastery experiences (Bandura, 1977).

Survey results also show a difference in teachers' perceptions of the traditional and pilot PL models related to NBC proposition 5 and Bandura's notion of social

persuasion. While more teachers (n=5) indicated that the pilot PL "Always" provided opportunities for collaboration than traditional PL (n=1), there is less variation in the data for opportunities to observe colleagues (traditional: n=1, pilot: n=0) and opportunities to receive feedback on practice (traditional: n=1, pilot: n=2). Although the structure of the PLC sessions required collaborative data analysis and planning, peer observations and feedback on practice were offered as optional PL experiences. Teachers did not pursue these opportunities.

Teachers' reluctance to observe one another and/or receive feedback on their practice is also reflected in their responses to items aligned with Bandura's notion of vicarious experiences and affective states. Teachers preferred observing symbolic models of instruction rather than live models of instruction. For example, during the October PLC session, teachers observed as I modeled an annotating strategy. Teachers' preference for symbolic modeling may be related to managing emotional arousal, or affective states. According to Bandura (1977) vicarious learning can reduce feelings of defensiveness when participants are able to observe models passively before graduating to more active forms of modeling, like peer observations. However, participants gain a stronger sense of efficacy when they see "models overcome their difficulties by determined effort than from observing facile performances by adept models" (p. 197). Therefore, peer models may impact teachers' practice more than expert models that are performed during a PL session. Likewise, teachers preferred forms of social persuasion that were confined to collaborative planning as opposed to feedback on their practice. Although social persuasion alone can enhance outcome expectations, "to raise by persuasion expectations

of personal competence without arranging conditions to facilitate effective performance will most likely lead to failures that discredit the persuaders and further undermine the recipients' perceived self-efficacy" (p. 198). Therefore, teachers may benefit more from social persuasion that includes feedback on their practice than from social persuasion that is confined to planning sessions.

Recommendations

The Blueprint for Maryland's Future requires districts to provide PL that is both teacher led and job-embedded. This vision of PL will be eventually be supported by NBC teachers who earn teacher-leadership roles as they advance along the career ladder. To begin aligning with this vision, leaders might consider PL models that develop TSE and leverage the NBC process. These survey results support the development of a PLC model for all CCPS Secondary ELA teachers. Pilot survey data indicate that teachers perceived the PLC model to be more collaborative, relevant, and impactful than the traditional PL model. The study was implemented during the first half of the 2023-2024 school year. I recommend that the model be implemented for the full school year in 2024-2025, and that peer observations and feedback are emphasized during the second half of the year so that teachers have opportunities to develop self-efficacy through vicarious experiences and social persuasion.

Limitations

One limitation of this study is the sample size, which included 7 ELA teachers from 1 middle school. Another limitation is that one of the teachers gave the same response ("Always") to every item on the traditional PL survey. Survey results were

anonymous, so I cannot link responses to years of experience, but participant experience of the traditional PL model varied, with one new teacher experiencing only two days of new teacher training. Finally, survey results may be limited by the teachers' ability to self-report accurately, particularly within such a small sample size. I supervise the participants, so there is a power differential, and even though survey results are anonymous, the size of the sample may have made participants more cautious in their responses. Despite the limitations, the survey data was one way for me to understand participant responses to the PL pilot.

References

Bandura. A. (1977). Self-efficacy: Toward a unifying theory of behavioral change.

Psychological Review, 84, 191-215.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. W. H. Freeman.

National Board for Professional Teacher Standards. (2023). Retrieved from https://www.nbpts.org/about/mission-history/

Appendix I

ARTIFACT 9

Revised Professional Learning Model

Original Models

In the development stage of this project, I designed Professional Learning Community (PLC) models based on both the Architecture of Accomplished Teaching (AAT) from the National Board for Professional Teaching Standards and the work of DuFour and Reeves (2016), who suggest structuring PLC work around the following four questions:

1. What do students need to learn?
2. How will their learning be assessed?
3. How will we address what they have not learned?
4. How will we meet the needs of students who have learned?

I supervise English Language Arts teachers, grades six through twelve. Typically, middle school teachers are scheduled as grade level teams who share common planning time, whereas high school teachers may teach multiple grade levels and have fewer opportunities for common planning. I suggested two models, identical in structure but varied in content. The first model was designed for teachers who teach the same grade level and are implementing the same curriculum. The middle school teachers who participated in this project followed the first model. The second model offers a

collaborative process for teachers who do not teach the same grade level. These teachers could work vertically by selecting one standard to analyze and monitor across grade levels.

Revised Models

The revised models incorporate data from Artifact 3, my analysis of the data in Artifact 8, and insights gained from Artifact 7. An analysis of the survey data indicates that the five stages of the PLC pilot provided teachers with professional learning that aligned with the first four of the National Board Five Core Propositions. Propositions 1-4 describe teacher attitude (committed to students and their learning), capacity (know the subjects they teach and how to teach them) and practice (responsible for managing and monitoring student learning, think systematically about their practice and learn from experience). The pilot PLC process was grounded in analyzing student learning data, identifying students' learning needs, and requesting PL content that aligned with students' learning needs. This job embedded process may have improved teachers' understanding of their students and the curriculum.

Furthermore, descriptive data collected using the PLC Observation Tool (Artifact 7) indicate that the PLC structure supported teacher collaboration grounded in student learning data and the established curriculum. Stage one of the PLC process provides a structure for analyzing screening data, reviewing the standards of a unit of instruction, and using curricular resources to design instruction that meets students' learning needs.

During stage three, teachers use student work samples to evaluate the effectiveness of that instruction.

While survey and observation data suggest stages one and three of the PLC process successfully facilitated collaboration around student learning, stages two and four of the PLC process require more consideration and development. At stages two and four, teachers implement the planned instruction and receive job-embedded professional learning, which they request at the end of both stages one and three. One of the professional learning options was observation and feedback, which may provide opportunities for vicarious learning and social persuasion, conditions that can develop teacher self-efficacy (TSE) (Bandura, 1997). However, teachers did not select this option. Instead, teachers gravitated toward low-risk professional learning experiences, like watching a presentation or receiving asynchronous content.

By making observations and feedback optional, I may have deprived teachers of opportunities to develop TSE. Furthermore, if observations and feedback are optional, so is teachers' accountability for applying the professional learning to classroom instruction. Therefore, in the revised model I will not only require observations and feedback as part of the professional learning process, I will also provide more guidance and support so that teachers feel supported rather than evaluated. According to Rayan (2013), peer observations should involve a three stage process: pre-observation, during observation, and post observation, to establish clear expectations and procedures. Furthermore, peer observations should benefit both the observer and the observee with an emphasis on

reciprocal professional learning rather than evaluation (Ostovar-Nameghi & Sheikhahmadi, 2016).

Finally, to implement this PLC model for Secondary English Language Arts across all eleven secondary schools, I will need to provide training for lead teachers so that they can successfully facilitate the PLCs with their departments. Currently, Cecil County Public Schools offers leadership training for teachers who want to become administrators, but not for teachers who want to remain in the classroom. As a result, many aspiring teacher leaders feel uncomfortable facilitating professional learning for their peers. To address this gap in our professional learning infrastructure, I will develop leadership training for the department chairs who will facilitate the PLCs.

In the revised PLC models below, training for lead teachers who will facilitate the PLCs and training for all teachers who will participate in peer observations are reflected in the addition of a "Preliminary Training" stage. Additionally, "observations and feedback" are presented as a required, rather than optional, component of the PLC process.

Grade Level Meeting Teachers teach same grade and work with grade level partners
Preliminary Training ● Lead teachers receive teacher leadership training to support successful facilitation of the PLC model. ● All teachers receive training on peer observations and feedback

Stage 1: Collaboration- 2 Hours

Who are our students? Where are they now?

- First meeting:
    - Create baseball card report in PM using MAP and MCAP data
- Subsequent meetings:
    - Create current reports with updated data (MAP fall/winter)
    - Review data for curriculum assessments (summative and/or formative)

What do students need to learn?

- Identify focus standards and benchmark essay for upcoming unit.
    - Brainstorm: What knowledge and skills must students demonstrate to complete this task?

How will their learning be assessed?

- Identify formative assessments in the unit guide.
    - Are they aligned with the benchmark task?
    - Do we need to adjust and/or differentiate the learning activities?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 2: Application

- Teach lessons
- Embedded Professional Learning, 1 Hour (district provided content)
- Observation and feedback

Stage 3: Collaboration- 2 Hours

How will we address what they have learned?

- Bring range of student work samples to meeting to reflect levels of proficiency
    - What knowledge or skills were students able to demonstrate?
    - What misconceptions, wrong information, or skill deficiencies did students demonstrate?
    - What teaching approaches or strategies worked for students?
    - What teaching approaches or strategies did not work for students?

How will we address what they have not learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who have not learned?
- Do we need to reteach concepts?
- How can we differentiate instruction using evidence-based strategies?

How will we meet the needs of students who have learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who are demonstrating proficiency? How can we accelerate or enrich instruction using evidence-based strategies?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 4: Application

- Teach lessons
- Embedded Professional Learning, 1 Hour (district provided content)
- Observation and feedback

Stage 5: Reassess and use data to cycle back to Stage 1

Vertical Meeting
Teachers across grade levels working as a vertical team
(middle school: 6-8; high school: 9-12)

Preliminary Training

- Lead teachers receive teacher leadership training to support successful facilitation of the PLC model.
- All teachers receive training on peer observations and feedback

Stage 1: Collaboration- 2 Hours

Who are our students? Where are they now?

- First meeting:
  - Create baseball card report in PM using MAP and MCAP data
- Subsequent meetings:
  - Review reports to reflect upon growth
  - Create current reports with updated data (MAP fall/winter)

What do students need to learn?

- Identify common standard from Reading Literary Text, Reading Informational Text, Writing (informative, argumentative, or narrative) or Language
  - Brainstorm: What knowledge and skills must students acquire to demonstrate mastery of this standard?

How will their learning be assessed?

- Identify assessments (formative and summative) in curriculum. Select one to share with the department.
- How do the assessments align across grade levels?
- What strategies do we use at each grade level to prepare students for the assessments?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 2: Application

- Teach lessons
- Embedded Professional Learning, 1 Hour (district provided content)
- Observation and feedback

Stage 3: Collaboration- 2 Hours

How will we address what they have learned?

- Bring range of student work samples to meeting to reflect levels of proficiency
    - What knowledge or skills were students able to demonstrate?
    - What misconceptions, wrong information, or skill deficiencies did students demonstrate?
    - What teaching approaches or strategies worked for students?
    - What teaching approaches or strategies did not work for students?
    - What resources or professional learning do we need at this time?

How will we address what they have not learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who have not learned?
- Do we need to reteach concepts?
- How can we differentiate instruction using evidence-based strategies?

How will we meet the needs of students who have learned?

- What learning activities are outlined in upcoming district plans?
- Will they address the needs of students who are demonstrating proficiency?
- How can we accelerate or enrich instruction using evidence-based strategies?

What resources or professional learning do we need at this time?

- Complete professional learning request form

Stage 4: Application

- Teach lessons
- Embedded Professional Learning, 1 Hour (district provided content)
- Observation and feedback

Stage 5: Reassess and use data to cycle back to Stage 1

References

Bandura, A. (1997). *Self-efficacy: The Exercise of Control*. W. H. Freeman.

Ostovar-Nameghi, S. A., & Sheikhahmadi, M. (2016). From teacher isolation to teacher collaboration: Theoretical perspectives and empirical findings. *English Language Teaching*, *9*(5), 197-205.

Rayan, P. (2013). Peer Observation of teaching: A tool for professional development. *English for Specific Purposes World*, *14*(39), 45-54.