ABSTRACT

Title of dissertation: THE PERCEIVED RELATIONSHIP OF PROFESSIONAL DEVELOPMENT ON TEACHER SELF-REPORTED USE OF THE ENGLISH LANGUAGE ARTS COMMON CORE STATE STANDARDS

Tiffany Tresler, Doctor of Education, 2014

Dissertation directed by: Dr. Dennis Kivlighan
Department of Counseling, Higher Education, and Special Education

Beginning in 2012 teachers from 44 states have been challenged to make significant changes in curriculum and classroom instruction to meet the rigor of the Common Core State Standards. However, available research does not provide definitive methods to impact wide-scale reform, such as Common Core Standards adoption. This preliminary, quantitative study seeks to examine professional development and one component of the Common Core. The purpose is to determine if specific teacher perceived features of professional development are related to self-reported classroom use of the six English language arts (ELA) Common Core instructional shifts.

The specific professional development features studied and the statistical analysis are based on the work of Garet, Porter, Desimone, Birman, and Yoon (2001), examining what makes professional development effective. The features are type (reform vs. traditional), duration, collective participation, content focus, coherence, and active

learning. The ELA instructional shifts are balancing informational and literary text, teaching reading and writing through disciplines, use of complex text, text-based answers, writing from sources, and use of academic vocabulary.

The study population consists of 89 elementary school teachers in one school system in Maryland who completed a survey asking them to describe their most recent professional development experience and their classroom use of the six ELA Common Core instructional shifts. The survey is modified from the *Teacher Activity Survey* (Garet et al., 1999) used in a large-scale national study (Garet et al., 2001) and a follow-up three-year longitudinal study (Desimone, Porter, Garet, Yoon, & Birman, 2002).

The results of the correlation and ordinary least-squares regression analysis indicate that alignment, a component of coherence, and content focus are the only two perceived professional development features that are strongly correlated with teacher self-reported use of the Common Core instructional shifts. Specifically, the feature of content focus is likely to be a predictor of reported use of students reading and writing through disciplines and writing from sources. Alignment is likely to be a predictor of the reported use of teaching students using complex text. Content focus and alignment are predictors of the reported use of the shifts in total.

The Perceived Relationship of Professional Development on Teacher Self-Reported Use of the English Language Arts Common Core State Standards

By

Tiffany Dawn Tresler

Dissertation submitted to the Faculty of the Graduate School of the
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Advisory Committee:

Dr. Dennis Kivlighan, Chair
Dr. Helene Cohen
Dr. Carol Parham
Dr. Stephen Koziol
Dr. William Strein

Dedication

To Raven,
You too have the grit needed to succeed
In reaching your goals.
I love you.

To Carolyn,
My mother and number one supporter,
You have told me that I can do this for the past 20 years.

To Chris 4.0,
Only with your support, love, and patience,
Have I been able to persevere these past five months.

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end of chapter two and then doing everything else while I finished. Without you, at times, I would have given up.

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

LIST OF TABLES

LIST OF TABLES (cont.)

LIST OF FIGURES

"The success of the Common Core State Standards depends on the educators' capacity to make the instructional shifts the standards require. Meeting the promise of content standards cannot be achieved merely by agreeing on and publishing new standards. Effective teaching of the standards, not the standards themselves, prepares students for college and careers. The need for ensuring effective professional development has never been more important" (Killion & Hirsh, 2012, p.3).

CHAPTER 1

INTRODUCTION

The Common Core State Standards, released in June 2010 and developed through the collaborative leadership of the National Governors Association for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO), promise to provide educators with clear goals for student learning in mathematics and English language arts (ELA) in order to prepare all students to be college and career ready. The ultimate mission of the Common Core is to equip students in the United States to compete in a global economy (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2014) as the Common Core Standards are aligned with international standards. Forty-four states, the District of Columbia, four United States Territories and the Department of Defense Education Activity (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2014) have voluntarily committed to adopting the Common Core, impacting over 42 million students and 2.7 million educators (Achieve, 2012).

Large numbers of U.S. students need college remediation, and employers report that these students are unprepared for the workforce (Van Roekel, 2011). Prior to the adoption of the Common Core, each state developed its own standards for student learning. These standards varied widely from state to state in terms of content and rigor, yet the skills and knowledge needed to succeed in higher education and to compete in the workplace are becoming increasingly similar across the U.S. and globally. There are vast differences by state in student performance on international assessments in reading and mathematics. For example, in 2011 the percentage of Massachusetts students who scored at the proficient level in mathematics was 50.7%; only 13.6% of Mississippi students and

8% of students in the District of Columbia were proficient (Peterson et al., 2011). Implementation of the Common Core will help to ensure that all students, no matter where they live, receive a high quality education. Additionally, common standards will allow educators to share instructional materials and best practices with their colleagues in other states.

Merely adopting the Common Core will not be enough to ensure change; successful implementation will be necessary (Grossman, Reyna, & Shipton, 2011; Killian & Hirsh, 2012). The Common Core states what students need to know, but they do not provide guidance for the teaching of the standards. For some states, meeting the high standards of the Common Core will require significant changes in curriculum and classroom instruction. Educational experts (Achieve 2010; Grossman et al., 2011; Killian & Hirsh, 2012; Kober & Rentner, 2012; Scholastic & the Bill & Melinda Gates Foundation, 2012) agree that extensive, effective professional development will be a crucial element for Common Core implementation, yet many states claim that providing this professional development will be a challenge (Kober & Rentner, 2012).

Background

Maryland was one of the first states to commit to the Common Core in June 2010 and was awarded Race to the Top grants from the federal government to fund the changes needed to make the Common Core a reality in classrooms. The majority of the states that have adopted the Common Core, including Maryland, have developed formal implementation plans and will begin to measure student performance based on these standards during the 2014-2015 school year. Maryland has reported completion of formal implementation plans in the areas of professional development, the development

of curriculum guidelines, and changes to the teacher evaluation system (Porter et. al., 2012).

Washington County, Maryland Public Schools (WCPS) required use of the ELA Common Core to develop classroom curriculum beginning with the 2012-2013 school year. Professional development experiences for teachers began during the 2011-2012 school year. These early professional development offerings focused on exposure and awareness. During the 2012-2013 school year, the goal of WCPS Common Core professional development was classroom implementation; therefore, WCPS elementary teachers have already had the opportunity to participate in a wide-variety of ELA Common Core professional development experiences. Some of these activities were collaborative lesson and long-term curricular planning based on the standards, analyzing student writing and test data, classroom coaching from school-based lead teachers, viewing model lessons, holding reflective conversations about what the Common Core will require students to know and do, and creating common assessments. These professional development experiences have been sponsored by the Maryland State Department of Education (MSDE), WCPS curriculum supervisors, the Chesapeake Coalition of Essential Schools (CCES), and administration at the individual school level.

Problem Statement

Implementing the ELA Common Core standards will require that teachers make significant instructional changes in their classrooms. Author of the ELA Common Core standards, David Coleman, outlines six pedagogical shifts demanded by the ELA Common Core State Standards (New York State Department of Education, 2013; Oregon Department of Education, 2013). Table I describes these instructional shifts. Due to the

short timeframe of expected full implementation, educators must quickly move from an awareness of the six shifts to use in the classroom. Professional development must be provided and supported by the local education agencies (LEA) and at the school level; however, there are no rigorous studies available on professional development and the impact on wide-scale reform efforts such as the implementation of the Common Core (Wilson, 2009). Additionally, administrators who are designing Common Core professional development cannot copy the professional learning models from past standards-based reform. History has shown that the creation of new standards has not improved student achievement (Loveless, 2012; Whitehurst, 2009; Spillane, 2006). This leads to the conclusion that professional development experiences for the standards of the past were not successful. In order for the new standards to make an impact, they must be effectively used in the classroom. Therefore, school leaders need a comprehensive view of proven professional development practices (Blank & de las Alas, 2009) to foster classroom use of the new common learning standards.

Table 1

Pedagogical Shifts Demanded by the ELA Common Core State Standards

Shift	Description
Shift 1: Balancing informational and literary text	Students read a true balance of informational and literary text.
Shift 2: Knowledge in the disciplines	Students learn through reading domain-specific texts and by writing.

Table 1 (continued)

Pedagogical Shifts Demanded by the ELA Common Core State Standards

Shift	Description
Shift 3: Staircase of complexity	Students read the central, grade appropriate text around which instruction is centered. Teachers create more time in the curriculum for close and careful reading and provide appropriate supports to make the central text accessible to students reading below grade level.
Shift 4: Text-based answers	Students engage in rich and rigorous evidence-based conversations and writing about text.
Shift 5: Writing from sources	Writing emphasizes use of evidence from sources to inform or make an argument.
Shift 6: Academic vocabulary	Students constantly build the transferable vocabulary they need to access grade level complex texts.

Note: Taken from New York State Education Department (http://www.engageny.org/sites/default/files/resource/attachments/common-core-shifts.pdf) and Oregon Department of Education (http://www.ode.state.or.us/wma/teachlearn/commoncore/common-core-shifts-ela.pdf).

Throughout this study these instructional practices are referred to as the six instructional shifts or the shifts as this is how these practices are commonly known. However, for the purpose of this study, they are assumed shifts. This is because an actual change or shift in teacher practice is not measured or examined. For this study, reference to the shifts or the instructional shifts are a reference to the instructional practices.

Purpose

Prior educational research (Garet, Porter, Desimone, Birman, & Yoon, 2001; Blank & de las Alas, 2009) suggests that certain core and structural features of

professional development impact change in teacher practice. These six features of high quality professional development are active learning, focus on content, coherence, longer duration, reform-type activities as compared to one-shot workshops and traditional classes, and collective participation. Based on several studies (Garet et al., 2001; Blank & de las Alas 2009; Desimone, Porter, Garet, Yoon & Birman, 2002; Yoon, Duncan, Lee, Scarloss & Shapley, 2007) it can be hypothesized that schools that provide professional development designed with the six features will have teachers who use the new standards in the classroom. This study tests that hypothesis. Specifically, the purpose of this study is to determine if there is a perceived relationship between teacher participation in professional development designed with the six features and self-reported use of the six ELA Common Core instructional shifts.

Research Questions

The following questions guide this study:

1. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of text balance (shift one) in the classroom?
2. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of knowledge in the disciplines (shift two)?
3. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of staircase of complexity (shift three) in the classroom?

4. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of text-based answers (shift four) in the classroom?
5. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of students' writing from sources (shift five)?
6. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of academic vocabulary (shift six) in the classroom?

Research Structure

Quantitative research methods utilizing correlation and ordinary least square regression analyses are the design of this study. The entire target population, WCPS elementary classroom teachers, were asked to complete a survey about their most recent ELA professional development experience. The questions determined the prevalence of the six features in the design of the professional development experiences and the frequency of teachers' self-reported use of the six ELA instructional shifts. The survey instrument is modified from the *Teacher Activity Survey* utilized in the Garet et al. (2001) national study that was developed to evaluate the impact of the Eisenhower Professional Development Program (Title II). The purpose of the Garet et al. (2001) study was to examine the features of professional development and teachers' self-reported change in practice; therefore, their survey instrument matches the purpose of this study.

The survey instrument for this study was developed for use in a cross-sectional national study (Garet et al., 2001) and a follow-up longitudinal study (Desimone et al.,

2002). The longitudinal study yielded similar results to the cross-sectional survey which strengths the reliability of the data gathered in the original studies. However, Garet et al. acknowledge limitations in the survey design that lower the reliability of their measures. For example, they wrote, "…the estimate of participation that we extract from the response may under- or overrepresent the teachers' actual participation in such professional development" (Desimone et al., 2002, p.103). Additionally, many of the ELA Common Core professional development experiences in WCPS are funded with Title II grants, the same grants that the *Teacher Activity Survey* were designed to evaluate. Due to the modification of the survey items for this study, cognitive field-testing was used to strengthen the trustworthiness of the instrument.

Statement of Bias

The researcher was a school-based administrator in the local school system where participants in the study are assigned, and therefore, may have been the evaluator of some of the research participants. The researcher clearly delineated her roles as researcher and school administrator for the research participants. Additionally, the researcher will ensure anonymity of the study participants' survey responses. Finally, the researcher has been involved in designing ELA Common Core professional development for WCPS teachers who are assigned to her past school. For the purpose of this study, the researcher considered herself as an uninvolved outsider. The researcher now has no affiliation with the school system.

Significance

Prominent researchers in the area of professional development (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Desimone et al., 2002;

Learning Forward, 2011) insist that intense job-embedded, comprehensive, content-focused and sustained teacher learning will be needed to move teachers from awareness to use of the Common Core State Standards. Additionally, adopting states have reported that designing and providing professional development for teachers to master the Common Core Standards is necessary for implementation (Kober & Rentner, 2012; Porter et al., 2012). The professional development activities included in the majority of state plans are conferences, workshops, online modules, webinars, and the development of teacher networks, statewide academies, and education service centers (Porter et al, 2012). Also, hundreds of packaged professional development programs, claiming to be aligned to the Common Core, are available for school leaders to purchase, yet no research exists on the connection between teacher participation in these activities and the actual use of the Common Core Standards for instruction.

WCPS has invested funds for Common Core professional development. While there is a great deal of literature supporting the professional development designs already provided to WCPS teachers, such as classroom coaching (Neufeld & Roper, 2003) and collaborative team planning (Darling-Hammond et al., 2009), no research exists on the specific features that should be included in professional development designs in order to impact use of the six ELA Common Core instructional shifts. This study begins to provide information necessary to fill this research gap. In short, the significance of this study is to be a preliminary guide for the design of WCPS professional development plans in order to increase the classroom use of the six ELA instructional shifts and to formatively evaluate the effectiveness of the professional development experiences that have occurred.

Explanations of Terms and Acronyms

Active learning: a core feature of professional development that provides teachers with opportunities to be engaged in the meaningful analysis of teaching (Garet et al., 2001).

Coherence: a core feature of professional development that describes the alignment of teachers' goals, state standards, and assessments (Garet et al., 2001).

Collective participation: a structural feature of professional development where groups of teachers from the same school, department, or grade-level learn together (Garet et al., 2001).

Common Core State Standards: a set of student learning goals for English language arts and mathematics developed to provide students in the United States with the same skills and knowledge.

Content Focused: a core feature of professional development that describes the degree to which the activity is focused on improving and deepening teachers' domain specific knowledge (Garet et al., 2001).

Council of Chief State School Officers (CCSSO): a non-profit organization whose membership is comprised of Chief State School Officers.

Duration: a structural feature of professional development that describes the total number of contact hours that the participants spend in the activity as well as the span of time over which the activity takes place (Garet et al., 2001).

English language arts (ELA): the reading, writing, speaking, language, and listening standards.

Elementary School: comprised of grades kindergarten through fifth, in some cases, also includes pre-kindergarten.

Features of Professional Development: six characteristics of professional development that were studied by Garet et al. (2001). The structural features are reform type vs. traditional activity, duration, and collective participation. The core features are active learning, coherence, and content focused.

Local Education Agency (LEA): a local public school district

Maryland State Department of Education (MSDE): the state agency responsible for education in Maryland.

National Governors Association for Best Practices (NGA Center): research and development firm that directly serves state governors.

Professional development: an activity or experience that is designed to provide teachers with the opportunity to learn about educational practices, curriculum, and student learning in order to make instructional improvements in the classroom.

Race to the Top: a competitive federal grant award to states to support reforms in curriculum, data-systems, ensuring a high-quality educator staff, and support low-achieving schools.

Reform type professional development: a structural feature of professional development identified by Garet et al. (2001). Reform type activities are those that cannot be described as traditional workshop type structure. Examples of reform type activities include, but are not limited to, the following: study group, teacher network, mentoring, committee or task force, internship, and research project.

Teacher: a certificated educator assigned to a classroom, which is accountable for students' learning.

Traditional professional development: a structural feature of professional development that can be described as a workshop type design. Workshops are structured by a leader or expert and occur outside of a classroom at a scheduled time (Garet et al., 2001).

Dwight D. Eisenhower Professional Development Program (Title II): funding provided by the federal government to states to be used to improve teacher quality. Title II, Part B of the Elementary and Secondary Education Act.

Washington County Public Schools (WCPS): the local education agency serving Washington County, Maryland.

Descriptions of WCPS Programs

Arete School: an elementary school in WCPS that has been targeted for special assistance and monitoring by the Associate Superintendent for Educational Improvement and Innovation.

CCES School: a school in which the Chesapeake Coalition of Essential Schools provides professional development services and classroom coaching.

Chesapeake Coalition of Essential Schools (CCES): a non-profit affiliate center of the Coalition of Essential Schools national network, serving the mid-Atlantic region, which provides educational consultation and professional development services (Chesapeake Coalition of Essential Schools, 2012). *http://chesapeakeces.org/*

Magnet Schools: elementary schools in WCPS with specialized curricula. Currently, three elementary schools have magnet offerings: Global Awareness and World Languages, Arts, and Integrated Arts and Technology.

Professional Development Schools: WCPS schools partnered with Frostburg State University to mentor and provide student-teaching experiences for pre-service teachers.

Teacher Incentive Fund (TIF): a grant which provides professional development funds in order for teachers and administrators to pilot the new teacher evaluation system in WCPS. This grant is provided by the federal government for school systems to develop performance-based compensation systems.

Title I: funding provided by the federal government to states to be used to improve the academic achievement of students who are economically disadvantaged.

Descriptions of Reported Professional Development Experiences

Lucy Calkins. The purpose of the professional development experience described in this study as Lucy Calkins is for teachers to learn how to implement the Lucy Calkins Common Core Writing program. Although Lucy Calkins' materials for teaching writing were available prior to the adoption of the Common Core, Lucy Calkins developed a new writing curriculum specifically designed for the Common Core Standards. The participants in this experience taught the same grade-level from different schools and met after school once per month for two hours with a facilitator/instructor. For example, one first grade teacher from each WCPS elementary school and a facilitator/instructor comprised one Lucy Calkins professional development study group; one second grade teacher from each elementary school comprised another Lucy Calkins professional development group.

Curriculum mapping/scrolling/unpacking standards. This professional development experience is based on the work of Wiggins, McTighe, and McTighe (1998) in *Understanding by Design*. Participants in grade-level teams from the same school collaborated to determine the sequence for teaching the Common Core State Standards and develop the curriculum from the standards. The grade-level teams first examined the

language of the standards; next they sequenced the teaching of the standards to match the content area sequences for interdisciplinary teaching opportunities; last they collaboratively develop interdisciplinary lessons to match the instructional shifts of the Common Core Standards.

CFIP/Planning/Collaborative Planning. CFIP is an acronym for Classroom Focused Improvement Process. Participants in CFIP were grade-level teams from the same school who use student data to guide instructional planning. See http://mdk12.org/process/cfip/ for more detailed information. The CFIP process can be considered to be a Common Core professional development experience because a lead teacher, who helps the classroom teachers plan using the specific instructional shifts, facilitates the collaborative planning component.

Fundations/Wilson. This workshop is for participants from multiple schools and various grade-levels, and the purpose is to learn how to implement the Fundations or Wilson reading programs. Although these programs were developed prior to the adoption of the Common Core State Standards, they are aligned with the foundational skills component of the ELA standards. Additionally, the newest edition of Fundations (Wilson Language Training, 2012) was updated to match the Common Core.

Action Research. Action research involves teachers conducting research in their own classrooms/schools to determine the effectiveness of a program, method or teaching strategy. For the purpose of this study, any action research reported by the participant would be on the classroom use of the Common Core State Standards.

Junior Great Books. The format of this professional development is a workshop for participants from multiple schools and various grade-levels. The purpose is to learn

how to implement the Junior Great Book reading program in alignment with the Common Core instructional shifts.

Close Reading. This professional development is on the topic of close reading, which is defined by "stresses engaging with a text of sufficient complexity directly and examining meaning thoroughly and methodically, encouraging students to read and reread deliberately" (PARCC, 2011, p. 7). There was no set format or design as the features of this professional development design varied by each school.

Questioning. The topic of this professional development was asking students higher-order thinking questions during ELA instruction. There was no specific format or design as it was sponsored at the school levels. This experience is aligned to the instructional shift of shift 4; students engage in rich and rigorous evidence-based conversations and writing about text.

PARCC. PARCC is an acronym for Partnership for Assessment of Readiness for College and Careers. This is the assessment that will be used in Maryland to measure student knowledge of the Common Core State Standards. This professional development experience had no specific format or design as it occurred at the school level. The purpose of PARCC professional development was to familiarize teachers with the assessment questions and to plan Common Core-based instruction to provide students with the skills and knowledge necessary to be successful on the PARCC assessments.

Developing Assessments. The design of this school-based experience was teachers working with grade-level teams in the same school to create student assessments based on the Common Core State Standards. The assessments developed reflected the teacher use of the ELA instructional shifts.

Observing Other Teachers. Teachers who participated in this professional development experience had the opportunity to observe other teachers who were using the instructional shifts in their classrooms.

Common Core. For this study, some of the participants described their professional develop experience as "Common Core" with no other specific information or description.

CHAPTER 2

LITERATURE REVIEW

The purpose of this study is to determine if there is a relationship between teacher participation in professional development perceivably designed with six specific features and self-reported use of the six ELA instructional shifts for the Common Core State Standards as determined by teacher survey response describing their most recent professional development experience. In order to contextualize the challenges of impacting classroom practice, this section begins with an overview of the development of the Common Core and an explanation of the history of the standards movement. This is followed by a discussion on why professional development is a key catalyst to the classroom use of the Common Core instructional shifts. Last, a review of the relevant literature examining the characteristics of high-quality professional development is presented.

Common Core professional development experiences barely began in 2011 and were just gaining momentum during the 2012-2013 school year. Therefore, literature on definitive ways to impact teacher use of the Common Core does not yet exist (Choppin, 2013 as cited in Robelen, 2013). The majority of states are currently enacting professional development plans, and vendors, along with other third-party providers, are offering a wide variety of professional development materials. However, these professional development experiences have not been formally evaluated for effectiveness. Due to the present lack of research, this literature review includes professional development design recommendations from educational experts, current state level efforts, and a sample of resources available for implementation.

The Development of the Common Core State Standards

The creation of the Common Core was a collaborative effort between Achieve, Inc, a non-profit education reform organization whose board of directors consists of governors and business leaders, the National Governors Association Center for Best Practices (NGA Center), a research and development firm, and The Council of Chief State School Officers (CCSSO). In 2008, these organizations released the report *Benchmarking for Success: Ensuring U.S. Students Receive a World Class Education*, which argued for the adoption of common, internationally-benchmarked standards to be adopted by all states. Fifty states, the District of Columbia, and the U.S. territories then signed a memorandum of understanding to commit in the development of the standards, which included multiple opportunities for input from the public, business leaders, and educators (Grossman et al., 2011). The final version of the Common Core State Standards was released in June 2010, and now, every state, except Alaska, Nebraska, Texas, Indiana, and Virginia, have adopted the standards (National Governors Association Center for Best Practices, & Council of Chief State School Officers, 2014).

As states faced the challenges of implementing the new common standards, the U.S. Department of Education funded the development of new tests to assess student knowledge of the standards. The assessments, developed by two consortia, Smarter Balanced and The Partnership for Assessment of Readiness for College and Careers (PARCC), will be administered during the 2014-2015 school year. Only four school years will elapse prior to measuring implementation through student assessment. Therefore, adoption, educator understanding, and use of the Common Core must be rapid, yet "implementing the Common Core State Standards will be challenging, because it will

require significant changes in instruction, assessment, educator preparation and development, curriculum, materials, and accountability measures" (Grossman et al., 2011, p. 3).

The Standards Movement

In 1983, the National Commission on Excellence in Education (NCEE) panel, created by Department of Education Secretary Bell, produced the report, *A Nation at Risk: The Imperative for Educational Reform* (1993). "The overall report painted a very dismal picture of American schooling, frequently citing examples of recent declines in student achievement" (Vinovskis, 2009, p. 16), such as claiming that more than 40% of students were unprepared for work or college (Mondale & Patton, 2001). Although educators questioned the validity of *A Nation at Risk,* its message garnered support for the first wave of educational reforms (Mondale & Patton, 2001). The purpose of public education in the United States became to "equip graduates with essential skills not only to perform well in an information-based workplace but also to secure America's global economic supremacy" (Mondale & Patton, 2001, p. 181). To achieve this purpose, the business practices of setting clear goals and high standards were copied and put into educational practice.

Attempts to measure common standards and compare student learning across states began in the late 1980s when the National Assessment Governing Board (NAGB) was created to revise the National Assessment of Educational Progress (NAEP) to produce state-by-state results (Finn & Petreilli, 2010). Prior to *A Nation at Risk*, governors were reluctant to use these tests to compare states; however, Secretary Bell wanted to provide the public with evidence that the increased investments in education

were leading to improvements in student achievement (Vinovskis, 2009). Finally, the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988 required the development of achievement goals for each tested subject, yet the information was not permitted for use in ranking school systems.

Following the reforms spurred by *A Nation at Risk,* the National Governors Association (NGA) became more involved in developing national educational policy. At the Charlottesville Education Summit, the NGA and key figures of President Bush's administration met to determine a set of performance goals for the U.S. school system. These six goals included requiring students to demonstrate knowledge of challenging subject matter and that "every adult American will be literate and possess the knowledge and skills necessary to compete in a global economy" (Vinovskis, 2009, p. 27). These were lofty goals that were largely undefined as each state still determined their own standards of learning and a common definition of knowledge and skills necessary to compete in a global economy did not exist.

The Bush administration next established the National Council on Education Standards and Testing (NCEST) to study the development of standards and hopefully begin to gather public support. NCEST released its recommendations in January, 1992, which focused on "developing and implementing national content and performance standards and assessments" (Vinoviskis, 2009, p. 53) including service delivery standards, which were a topic of intense political controversy. Political opposition grew against the creation of national standards and assessments but advocacy for them also continued.

Prior to his election, in his plan for improving education, President Clinton promised to create national standards and a national examination system within his first 100 days in office. Although the discussion and consideration of national standards continued though the Clinton administration, states continued to set their own standards for academic achievement.

Following President Clinton, the Bush administration's reauthorization of the Elementary and Secondary Schools Act in January 2002, known as No Child Left Behind (NCLB), included strict sanctions for schools and school systems that failed to show increases in student achievement on state-created standardized testing. While each state participating in NCLB was required to set high-standards for student learning and test students every year in grades three through eight in order to provide evidence of student learning, individual states determined how this learning was measured. These differences in state standards and testing created vast educational inequities across states, increased the need for college remediation, and prompted reports that U.S. students are not prepared with 21st century skills. The state governors and the CCSSO worked together to develop the Common Core State Standards in response to the public's declining confidence in the quality of U.S. education.

States are adopting the Common Core Standards even though history has shown that the development of higher standards has not improved student achievement (Loveless, 2012; Whitehurst, 2009; Spillane, 2006). The Brown Center on Education Policy at Brookings Institution examined the quality of learning standards across the United States in comparison to student achievement at both a single point in time and gains over time; little to no correlation was found between high standards and increased

student achievement (Loveless, 2012; Whitehurst, 2009). Finn and Petrilli (2010) assert that several states, such as California and Indiana, have had "excellent standards on the books for years yet haven't seen many changes in teaching and learning or student achievement" (p. 7). Additionally, Spillane (2006), for the Consortium for Policy Research in Education, analyzed student achievement in nine Michigan school districts following the introduction of new state mathematics standards and found no significant gains.

Calkins, Ehrenworth, and Lehman (2012) in *Pathways to the Common Core Accelerating Achievement* cite the work of Tyack and Cuban (1997), Elmore (1995), Goodman (1995) and the National Commission on Excellence in Education (1983) to emphasize that the standards movement and reform have failed over the past 40 years by producing stagnant or declining levels of student achievement. Based on the past impacts of state education standards, Loveless (2012) concludes that the Common Core adoption will have minimal effects on student achievement; however high-quality professional development and curriculum improvement could be the mechanism to overcome this prediction. For example, effective standards implementation in Massachusetts has led to high levels of student achievement (Finn & Petrilli, 2010). Also, according to Killion (2012), the high performing countries in the world invested in developing teacher content and pedagogy along with the adoption of high standards and matching assessments.

Professional Development is Crucial to Common Core Implementation

Teachers' perceived need for professional development and their perceptions of the quality of the experience influence their willingness to apply their learning in the classroom (Killion, 2012). Through surveys, Achieve (2012) found that "the more

teachers know about the Common Core State Standards, the more positive impression they have of the standards (p. 1). Specifically, in 2012 68% of U.S. teachers favored the standards. Schmidt and Houang (2012) sampled more than 12,000 teachers in 40 states that adopted the Common Core and "more than 90% said they liked the idea of having Common Core Standards for mathematics (p. 58). Yet educators know that they are not prepared to teach to the high rigor of the new standards. Schmidt and Houang's (2012) survey also found that less than 50% of the elementary teachers, 60% of middle school teachers, and 70% of high school teachers felt well prepared to teach the mathematics Common Core Standards (p. 58). Additionally, a survey conducted in the spring of 2013 (Warner School of Education, 2013), found that most teachers reported that they received fewer than 20 hours of Common Core focused professional development during the 2011-2012 school year. National surveys specifically on ELA Common Core professional development features have yet to be published.

In *Primary sources (*2012), researchers for Scholastic and the Bill and Melinda Gates Foundation reported that teachers want training to help all students meet the new standards. They found that 63% of teachers say that they need "professional development focused on the requirements of the new standards," and "60% will need professional development on how to teach the parts of the standards that are new to them" (Scholastic & The Bill and Melinda Gates Foundation, 2012, p. 19). Common Core professional development is therefore aligned with teachers' learning needs and coherent with current state educational goals.

Although teachers recognize their need to learn the content of the Common Core, they agree that resources and tools are needed as much as knowledge of the Common

Core (Scholastic & The Bill and Melinda Gates Foundation, 2012). In the *Primary sources* survey (2012), 64% of teachers reported a need for resources, and 59% reported a need for Common Core aligned curricula and learning tools (p. 19). Chingos and Whitehurst (2012) claimed that the instructional tools and materials that will be provided to teachers are equally important, if not more than building educator capacity. In the Common Core workbook developed for state and district leaders, Achieve (2011) stated that Common Core aligned curricula and instructional materials should be provided before intensive, professional development, as teachers will need the materials on which they will be trained (p. 5.3).

Even if teachers are provided with Common Core materials and resources, a teacher perception that change will not be necessary in order for students to master the Common Core could impact classroom use. A survey study conducted by William Schmidt of Michigan State University (2012) found that teachers' lack of understanding concerning the shifts needed to teach the Common Core is a critical reason to begin implementation with growing professional knowledge. He found that 80% of teachers believed that the new math standards were very similar to their current standards, and only about 25% would cease to teach a math topic if that topic was moved to another grade level in the new standards (p. 10).

Regardless if it occurs before or after providing instructional resources, educational experts (Van Roekel, 2001; Kober & Rentner, 2012) agree that a highly skilled teaching force, along with significant changes in curriculum and instruction will be necessary for effective Common Core implementation. It is the opinion of many in the field, and those involved in implementation (McLaughlin & Overturf, 2012; Melton,

Sztajin, Marrongell, & Smith, 2011; Krehbiel, 2012; Dismone et al., 2002; ASCD, 2012; Achieve, 2012; Killion & Hirsh, 2012; Killion, 2012; Grossman et al., 2011), that building educator capacity through focused and well-planned professional development will be one of the most crucial elements needed for the Common Core to impact teaching and learning. Achieve (2010) specifically stated that "One of the most important steps during the transition will be getting educators familiar with the new standards via intensive professional development" (p. 10). Furthermore, Killion and Hirsh (2012) asserted that "Inequitable and inconsistent implementation of standards will persist if insufficient resources are available for educators…to engage in the requisite preparation, professional learning, and extended support to make the transitions in their classrooms…" (p. 5).

Literature on Effective Professional Development

Although high-quality professional development will be needed to implement the Common Core, and numerous professional development studies have been published, there are relatively few studies that meet the rigorous, established criteria for quality research (Yoon et al., 2007; Blank & de las Alas, 2009). It has been difficult for researchers to show a direct link between specific attributes or features of professional development and improvements in student achievement or changes in teacher practice. Yoon et al.'s (2007) meta-analysis of more than 1,300 studies for the U.S. Department of Education's Institute of Education Sciences found nine studies that met the criteria. Blank and de las Alas (2009) also conducted a meta-analysis for the CCSSO to provide evidence, based on scientific research designs, of the impact of professional development

on student learning. Their meta-analysis found 16 studies that demonstrated statistically significantly positive effects on student achievement.

Even the National Writing Project, which is touted by experts in the field of professional development to be a highly effective teacher learning experience, has little empirical data to draw conclusions between its specific design features and change in teacher practice (Whitney, 2008). Newer studies of the National Writing Project show positive effects on student achievement in writing (National Writing Project, 2010), yet these studies are based on the professional development experience holistically. The features or characteristics of the National Writing Project professional development experiences are customized for local school system needs (National Writing Project, 2010) and therefore would not necessarily be consistent in all of the more recent 16 studies.

While the available studies do not agree on the impact of specific effective professional development features, research can still be used to identify design features that are more likely to contribute to change. Garet et al. (2001) and the follow-up three-year longitudinal study (Desimone et al. 2002) examined the effectiveness of specific professional development features on enhancing teacher knowledge and skills and on influencing change in classroom practice. From the existing literature, Garet et al. (2001) developed "best practices" features of professional development for the studies. These features, three structural features, and three core features, are summarized in the table below.

Table 2

Key Features of Professional Development Theorized to Impact Teaching Practice

Structural Features	Description
Reform Type vs. Traditional	such as a study group, teacher network, mentoring relationship, committee or task force, internship, research project, in contrast to a traditional workshop
Duration	total number of contact hours that the participants spend in the activity, as well as the span of time over which the activity takes place
Collective Participation	groups of teachers from the same school, department, or grade-level, as opposed to the participation of individual teachers from many schools
Core Features	**Description**
Active Learning	opportunities for teachers to become activity engaged in the meaningful analysis of teaching and learning
Coherence	by incorporating experiences that are consistent with teachers' goals, aligned with state standards and assessments, and encouraging continued professional communication among teachers
Content Focused	degree to which the activity is focused on improving and deepening teachers' content knowledge

Note: Taken from Desimone et al. (2002, p. 83).

In congruence with the findings of Garet et al. (2001), of the 16 studies determined by Blank and de las Alas (2009) to be of high-quality, all utilized active methods of teacher learning. The following table displays the effective active learning methods supported by the literature.

Table 3

Activities for Effective Professional Development

Activity	Source
Coaching	Joyce and Showers (2002); Matsumura, Sartoris, Bickle, & Garnier (2009); Neufeld and Roper (2003); Poglinco, Bach, Hovde, Rosenblum, Saunders, & Supovitz (2003)
Examining student work, developing student assessments; examining data, lesson study, action research	Blank and de las Alas (2009); Croft, Coggshall, Dolan, & Powers (2010); Dismone et al. (2002); Gallimore, Ermeling, Saunders, & Goldenburg (2009)
Low-risk practice	Joyce and Showers (2002)
Mentoring	Blank and de las Alas (2009); Daley (2010)
Observing other teachers	Blank and de las Alas (2009); Joyce and Showers (2002)
Reflection on practice	Curry and Killion (2009)
Receiving feedback	Archibald et al., (2011); Croft et al., (2010); Hall & Horce (2011); Joyce and Showers (2002); Vescio, Ross, & Adams (2008)
Theory Building	Joyce and Showers (2002)

The literature (Archibald et al., 2011; Blank and de las Alas, 2009; Cohen and Hill, 2001; Dismone et al., 2002; Elmore, 2002; Jackson & Bruegmann, 2009; Jaquith, Mindich, Wei, Darling-Hammond, & Adamson, 2010; Harwell, D'Amico, Stein, & Gatti,

2000; Hill, Stumbo, Paliokas, Hanson, & McWalters, 2010; Gallimore, Ermeling, Saunders, & Goldenberg, 2009; Wilson, 2009) also strongly supports that collaborative participation by teams of teachers is an effective way to actively engage teachers in the learning process. Blank and de las Alas (2009) specifically mention study groups and leading discussions as methods of group participation, and Harwell et al., (2000) concluded that discussion of literacy learning was associated with gains in student reading achievement. Wilson (2009) stressed that effective professional development includes "teams of teachers from the same school [that] participate and learn together, enabling their support of each other in using what they have learned" (p. 6). Hill et al. (2010) stated that the teacher teams must have common goals for student learning. Dismone et al. (2002), Elmore (2002), and Gallimore et al. (2009) shared similar collaborative designs for effective professional development activities that involve collective problem solving.

Garet et al. (2001) found that more time, measured by duration, and the frequency of a professional development experience had a positive influence on providing opportunities for active learning; however, they were unable to link increases in time directly to changes in classroom practice. Blank and de las Alas (2009) found duration to be a key feature that linked to teachers self-reporting to an increase in knowledge and skills. Consistent with the Garet et al. (2001) study, they concluded that there were no effects on actual change in classroom practice. Blank and de Alas (2009) did assert that "the best programs were longer, delivering 100 hours or more of training" (p. 26). However, the meta-analysis failed to show a definitive relationship between time and impact.

Other studies have been able to correlate increased professional development time and student achievement. Shields, Marsh, and Adelman (1998) reported that intensity and duration promotes teacher change, and the major meta-analysis study, Yoon et al. (2007), looked for the direct relationship of time on gains in student achievement. Yoon et al. (2007) reported that of the studies they examined, only those that consisted of more than 14 hours of professional development resulted in a positive or significant effect on student achievement. They also found that teachers participating in 49 hours or more of professional development can boost student achievement by approximately 21 percentile points. The inconsistencies in the study findings point to the conclusion that increasing time engaged in professional development without considering other key features will do little to affect change.

Coherence, aligning professional development efforts with other initiatives, and providing clear connections to the teachers' current knowledge and skills (Wilson, 2009) is a professional development feature that is critical for success. In the Archibald et al. (2011) literature review, "alignment with school goals, state and district standards and assessments, and other professional learning activities including formative teacher evaluation" (p. 3) were listed as the first of five characteristics of high-quality professional development. The Eisenhower professional development evaluations (Garet et al., 2001; Dismone et al., 2002) found that coherence can be correlated with a positive change in teacher practice. The Annenburg Instititue's (n.d.) study on coaching, a professional development activity, also found that coherence is necessary for change and that "the greatest coherence [is] where coaching is guided by district wide goals and standards that are grounded in research and experience, thereby avoiding disparate

approaches at the school level and ineffective, diluted supports from the central office" (p. 5).

Although the literature strongly supports coherence as a key feature of professional development, many experiences lack this needed alignment. The Anneburg Institute (n.d.) reported that central office and school-level efforts "are not consistently aligned and coordinated" (p. 5). This is consistent with the findings of Hirsch, Koppich, and Knapp (1998) and Ball and Cohen (1999) that professional development is often in the format of episodic, single day workshops that are disconnected from other professional development experiences and fragmented from important school goals. Lastly, Dismone et al. (2002) in their landmark longitudinal study found that "much of the variation in professional development and teaching practice is between individual teachers within schools, rather than between schools (p.105). They asserted that this finding is evidence that "schools generally do not have a coherent, coordinated approach to professional development" (Dismone et al., 2002 p. 105). This historical lack of alignment could be a reason why previous standards implementations have failed to make much of an impact on student achievement.

In addition to coherence, designers of professional development must also consider the content of the learning. Blank and de las Alas (2009) concluded that "standards-based educational improvement requires teachers to have deep knowledge of their subjects and the pedagogy that is most effective for teaching the subject" (p. 1). Their meta-analysis showed that professional development content that "focused on helping teachers improve their knowledge of how students learn in the specific subject area, how to teach the subject with effective strategies, and the important connections

between the subject content and appropriate pedagogy" (Blank and de las Alas, 2009, p. 21) could be utilized by teachers to make improvements in curriculum and instruction. Archibald et al. (2011) listed "focus on core content and modeling of teaching strategies for the content" (p. 3) as an attribute of high-quality professional development, and Wilson (2009) stated that effective professional development "focuses on deepening subject matter knowledge specifically for teaching- including how students learn and the specific difficulties they may encounter in mastering key concepts" (p. 6).

Kennedy (1998) presented a four part classification scheme for professional development content: focus on teaching behaviors that apply generically to all subjects; focus on teaching behaviors that apply to a particular subject; focus on curriculum and pedagogy; and focus on how students learn and how to assess student learning. Yoon et al. (2007) found that focusing on generic teaching behaviors showed smaller effects than professional development that focused on teacher content knowledge, curriculum, and student learning. Dismone et al. (2002), concluded that professional development content must focus on a specific instructional practice. The literature concerning the content of effective professional development supported that a focus on teaching behaviors that apply to a particular subject (Archibald et al., 2011; Blank and de las Alas, 2009; 2002; Kennedy, 1998; Wei, Darling-Hammond, & Adamson, 2010; Wilson, 2009) is most effective in influencing classroom changes.

Gaps in the professional development literature are the existence of high-quality studies in middle or high schools and English/language arts. Wilson (2009) and Yoon et al. (2007) asserted that all of the studies meeting the criteria for rigorous research were conducted in elementary schools, and Blank and de las Alas (2009) concluded from their

meta-analysis that "studies that targeted the elementary grades had larger mean effect sizes than studies that targeted middle or high school grades" (p.24). The major meta-analysis studies (Yoon et al., 2007; Blank and de las Alas, 2009) included relatively few high-quality studies of professional development on student achievement in areas of ELA.

Also missing from the literature are studies on the effects of professional development on wide-scale educational reform efforts. Wilson (2009) observed that all of the studies are small-scale, disparate programs and that "most professional development research is relatively short term, lacking the follow-up data on teacher knowledge, classroom instruction, and student learning that would determine if whether effects are robust and enduring" (p.7). Most professional development programs are not evaluated at all (Wilson, 2009). Therefore, policymakers, such as those involved in Common Core implementation plans, do not have a comprehensive view of research-proven, professional development practices (Blank & de las Alas, 2009).

Professional Development Recommended for Common Core Implementation

The absence of studies on professional development for standards implementation and large-scale reform, along with the forecasted challenges in the delivery of Common Core professional development, have caused at least 20 states to question if they are able to provide teachers with learning "in sufficient quantity and quality" (Kober & Retner, 2012, p. 8) to ensure that they are able to implement the Common Core. Loveless (2013) has even concluded that "If professional development typically yields such small effects, then expectations that it will impact in the context of the new standards are probably unwarranted" (p. 61).

Other leaders in Common Core implementation efforts (ASCD, 2012) worry that the standards timeline will not allow for sufficient professional development impact. Even with effective, job-embedded, high-quality professional development, teacher change occurs at a slow pace. Cohen and Hill (2001) and ASCD (2012) asserted that "Many states do not have policies that will enable them to quickly shift to the Common Core…and they may also be committed to other initiatives and reforms" (p. 12). ASCD (2012) cautions against "widespread initiative fatigue" (p. 15) from multiple major reform efforts and initiatives that overwhelm most school leaders' capacity to provide educators with focused, aligned, on-going, high-quality, professional development.

Considering all of the challenges and urgency in Common Core implementation, there is a danger that educational leaders will resort to "comfortable and familiar approaches to professional learning such as short-term awareness building information sessions" (Killion and Hirsh, 2012, p. 6) when "teachers and principals need considerable opportunities to develop deep content-specific knowledge" and "expand content specific pedagogy" (Killion and Hirsh, 2012, p. 10). ASCD (2012) and Brooks and Dietz (2013) stressed the importance of listening to teachers about their professional learning needs. The following table summarizes the professional development activities that are recommended by leaders in the educational field to implement the Common Core.

Table 4

Professional Development Activities Recommended for Common Core Implementation

Activity	Source
Analyze student work samples	Melton et al. (2011)
Analyze the standards in collaborative teams	Doorey (2013); Calkins et al. (2012); McLaughlin and Overturf (2012)
Blend of virtual and face-to-face learning	Killion and Hirsh (2012)
Classroom simulations/videos of expert instruction or classroom observations	Killion and Hirsh (2012); Bausmith and Barry (2011); Melton et al. (2011)
Choose curricular tools and resources	ASCD (2012); Melton et al. (2011)
Coaching with feedback	Killion and Hirsh (2012)
Collaboratively develop assessments	McLaughlin and Overturf (2012)
Connect teachers with networks of experts and peers	Killion and Hirsh (2012)
Creating curriculum maps	Ash (2013)
Examine the appendices of the English/Language Arts Standards	Doorey (2013); Center for K-12 (2012)
Examine the math practices in the mathematics standards or experience the practices as a learner	Doorey (2012); Melton et al. (2011)
Focus on the instructional shifts needed for implementations	Alberti (2013); Grossman et al. (2012); ASCD (2012)

Table 4 (continued)

Professional Development Activities Recommended for Common Core Implementation

Activity	Source
Give and receive constructive feedback	Killion and Hirsh (2012); Killion (2012); Sztajin, Marrongell, & Smith (2011)
Improve teacher content knowledge	Grossman et al. (2011); Bausmith and Barry (2011)
Learn about assessments related to the Common Core	ASCD (2012)
Lesson studies	Brooks and Dietz (2013)
Mentoring	Killion and Hirsh (2012)
Modeling	Killion and Hirsh (2012)
Participate in professional learning communities	ASCD (2012); Anderson and Herr (2011); Center for K-12 (2012)
Professional learning walks	Brooks and Dietz (2013)
Provide or share model lessons and examine lesson plans	ASCD (2012)
Provide time to collaboratively plan	ASCD (2012); McLaughlin and Overturf (2012)
Study and practice of high-level comprehension and analytical reading skills	Calkins et al. (2012)
Tuning protocols	Brooks and Dietz (2013)
Use data from assessments to inform instructions	ASCD (2012)
Utilize consultants and experts	Killion and Hirsh (2012)
Virtual learning	Killion and Hirsh (2012)

As supported by the literature on high-quality professional development, nearly all of the recommended professional development activities in Table 4 occur in collaborative teams and use active learning methods. What is not known through the literature is which of these activities and in what combinations will impact a large-scale reform initiative, such as the implementation of the Common Core Standards.

Current Common Core State Level Professional Development

Killion and Hirsh (2012) asserted that "few innovations to meet the requirement [of the Common Core implementation] are proposed to exist," (p. 5) and there is only limited research on the state role in professional development, mostly focusing on specific state initiatives (Blank and de las Alas, 2009). Killion and Hirsh (2012) claimed that the "approaches to professional learning, including its design and rigor, continue to reflect an 'educator as a miracle worker' belief…tell the teachers that the standards are adopted and they transform all of their work overnight" (p. 5). However, in their report of the States' progress and challenges in Common Core implementation after two years, Kober and Rentner (2012) acknowledged that all adopting states were beginning statewide professional development plans, and many states were changing their teacher evaluation systems. It is too early in the Common Core reform movement to be able to determine if state professional development plans are being effectively executed to cause change.

What is known is that professional development plans vary widely among the states, and districts that "engage in professional learning in the 2012-2013 school year will be best positioned to identify the professional development needs of their educators moving forward [prior to the student assessments]" (ASCD, 2012; Porter et al., 2012).

Porter et al. (2012) reported from an examination of State Education Agencies (SEA) planning activities that "The most commonly planned ways for providing professional development to teachers regarding the Common Core include: conferences and workshops, online modules, and webinars" (p. 10). To disseminate the information, "educators teacher networks, statewide and regional academies and regional education service centers" (Porter et al., 2012) will be used.

In a survey of its members and annual conference attendees, ASCD (2012) asked what schools and districts were doing to support Common Core implementation. The survey reported the following activities (ASCD, 2012, p. 28): Ongoing, job-embedded professional development (68%), classroom observation (48%), model lessons and instruction (39%), teachers identifying student work exemplifying instructional shifts (28%), teachers identifying curricular tools supporting the instructional shifts (44%), not sure (17%). ASCD (2012) reported that many SEAs have offered professional development across states in order to share resources.

Professional Development Resources Available for Common Core Implementation

SEAs, LEAs, and schools have available to them a large variety of Common Core professional development resources from non-profit and for-profit third parties and external providers. Killion (2012) listed regional agencies, higher education institutions, and vendors as examples of external partners. For instance, the assessment consortia, Smarter Balanced and PARCC, provided instructional units demonstrating the types of student work that the standards and the new assessments will demand. However, these resources were not ready until late 2013. Additionally, PARCC used Educator Leader

Cadres meetings to discuss professional development strategies for state, district, and school levels (Achieve, 2012).

ASCD hosted educator professional development summits for specific states where implementation strategies and practices were shared and surveys were administered to gauge accomplishments. For example, in North Carolina, ASCD lessons and units were developed with educators to assist them in deeply understanding the standards (ASCD, 2012). ASCD (2013) also created EduCore (http://educore.ascd.org), a website that includes a plethora of resources to help teachers shift their instruction to align with the Common Core, and a free webinar series with "actionable strategies and tactics for integrating the standard" (ASCD, 2012, p. 35).

Many other educational organizations have created professional development resources for educators. The National Association of Secondary School Principals offers webinar series, articles, and a blog (Council of Chief State School Officers, 2012). Other free professional development resources include hundreds of videos related to Common Core instruction on the Teaching Channel (Council of Chief State School Officers, 2012) and the data-base of Common Core teaching and professional development resources that was created from the Library of Congress.

Private groups are also working to create professional development materials. For example, Student Achievement Partners, "founded by two of the lead writers of the Common Core State Standards, David Coleman and Jason Zimba, received an $18 million grant from the GE Foundation" (Rothman, 2013, p. 21). This grant will be used to "create immersion institutes to familiarize teachers with the standards and to create a storehouse of materials for their use in instruction" (Rothman, 2013, p. 21).

Regardless if an external partner or provider provides professional development resources for free or for at a cost, it is important that SEAs, LEAs, and school leaders ensure that these resources are of high-quality and that they are aligned to the Common Core. Killion and Hirsh (2012) recommend that "third-party providers must be clear on the outcomes of professional learning, have a long-term plan for supporting implementation of the new learning, and the committed resources the plan demands" (p. 7). The Council of Chief State School Officers (2012) cautioned that it does not "certify the alignment of independently-developed resources" (p. 2). These recommendations are important as no external partner or provider will be able to certify that their professional development resources will impact the implementation of the Common Core.

Conclusion

Due to the lack of high-quality studies regarding effective professional development for large-scale reform efforts, such as the implementation of the Common Core State Standards, SEAs, LEAs, and school leaders will have to carefully design professional development plans combining methods and activities that have been shown to make an impact on smaller, specific initiatives. The review of the literature established six key features of effective professional development: reform type activities as opposed to "one-shot" workshops, longer durations, collective participation, focus on specific content and content-specific pedagogy, active learning, and coherence with other professional development and goals.

The Common Core student assessment data can begin to fill this research gap. Blank and de las Alas (2009) found that "studies that utilized student measures that are closer to the heart of what the professional development is intended to impact, do report

larger effect sizes" (p. 17). Since the new assessments will measure student knowledge and skills to be developed by the implementation of the Common Core, large-scale student achievement data can be gathered, following the first administration of the assessments. This data can be used to begin to examine the relationships between professional development plans for Common Core implementation and impact on student achievement.

Although a review of the pertinent literature demonstrates that the adoption of high standards for student learning have not positively impacted student learning, the adoption of the Common Core State Standards is expected to prepare all students, no matter where they live, for success in the 21st century. The adoption of the Common Core is the first time that nearly all of the states have agreed to teach and measure the same standards; therefore, large-scale program evaluation data will finally be available for comparisons of effective professional development designs. The states will be able to share research information and data to improve programs that will ultimately benefit all students.

CHAPTER 3

METHODOLOGY

The purpose of this study is to determine if there is a relationship between teacher participation in professional development perceived to be designed with six specific features and self-reported use of the six ELA Common Core instructional shifts. Based on the review of the literature (Garet et al. 2001; Blank & de las Alas, 2009) the specific features studied are reform-type, duration, collective participation, active learning, coherence, and content focus. It could be hypothesized that professional development experiences that are designed with these features are related to teacher use of the Common Core State Standards. This study begins to test that hypothesis.

This chapter, outlining the methodology, opens with the rationale for the study. The theoretical framework follows. Next, the design of the study, including the data collection procedures, survey design, and data analysis procedures are presented. Methodology limitations are presented, and the chapter concludes with a summary and description of school programs.

Rationale

Archibald, et al. (2011) asserted that evaluation of professional development is necessary as it "provides evidence of effectiveness and efficiency… facilitates program improvements… [and] ensures that teachers' time and investment was not (and will not be) wasted, and advances the field" (p. 14). However, due to the recent adoption of the new standards (June 2012), the impact of professional development on classroom practice has yet to be studied rigorously and formative evaluations are only recently occurring. Additionally, due to the urgency of implementation, Killion and Hirsh (2012) warned that

school leaders may resort to "comfortable and familiar approaches to professional learning, such as short-term awareness-building information sessions (p. 6). Research has shown (Archibald et al., 2011; Ball & Cohen, 1999) that these methods of professional development do not impact change.

There are numerous studies on the characteristics of effective professional development; however, few meet the criteria for quality research (Yoon et al., 2007), and there are no rigorous studies available on the relationship between professional development and the implementation of wide-scale reform efforts, such as the use of the Common Core (Wilson, 2009). Therefore, policymakers, such as those involved in Common Core implementation plans, do not have a comprehensive view of proven professional development practices (Blank & de las Alas, 2009). Since the Common Core has been adopted by nearly all of the states, knowing which features of professional development are related to teacher self-reported classroom application will assist school leaders in planning teacher learning experiences.

Theoretical Framework

Drawing on the work of Killion (2008) and Guskey (2000), Archibald et al. (2011) suggested three types of evaluations of professional development: process, impact, and cost-benefit/cost-effectiveness analyses. Furthermore, Archibald et al. (2011) stated that the first step in determining the effectiveness of professional development "is to articulate a theory of action, which is a set of hypotheses that essentially answers the following question: How will Tool/Approach/Program X achieve goal Y?" (p. 14). This study will determine which features of ELA Common Core-focused professional development experiences (X) are reported by teachers to be related to self-reported use of

the six instructional shifts (Y) in the classroom. The evaluation types will be process (the features of professional development) and impact (self-reported classroom use of the six instructional shifts). Although the highest measures of impact occur at the student achievement level (Tallerico, 2005), student achievement data will not be available until 2015; therefore, measures of impact will consist of teachers' self-reported use in practice. The six ELA Common Core instructional shifts are described in Table 5.

Table 5

Pedagogical Shifts Demanded by the ELA Common Core State Standards

Shift	Description
Shift 1: Balancing informational literary text	Students read a true balance of informational and literary texts.
Shift 2: Knowledge in the disciplines	Students learn through reading domain-specific texts and by writing.
Shift 3: Staircase of complexity	Students read the central, grade appropriate text around which instruction is centered. Teachers create more time in the curriculum for close and careful reading and provide appropriate supports to make the central text accessible to students reading below grade level.
Shift 4: Text-based answers	Students engage in rich and rigorous evidence-based conversations and writing about text.

Table 5 (continued)

Pedagogical Shifts Demanded by the ELA Common Core State Standards

Shift	Description
Shift 5: Writing from sources	Writing emphasizes use of evidence from sources to inform or make an argument.
Shift 6: Academic vocabulary	Students constantly build the transferable vocabulary they need to access grade level complex texts.

Note: Taken from New York State Education Department (http://www.engageny.org/sites/default/files/resource/attachments/common-core-shifts.pdf) and Oregon Department of Education (http://www.ode.state.or.us/wma/teachlearn/commoncore/common-core-shifts-ela.pdf).

The features of professional development and the quantitative design of this study are based on the work of Garet, Porter, Desimone, Birman, and Yoon (2001) in their national, probability cross-sectional sample of 1,027 teachers and their follow-up three year longitudinal study (Desimone, et. al., 2002). Utilizing prior research, Garet, et al. (2001) hypothesized that six key features of professional development could be effective in impacting teacher practice in math and science, and that these features could be organized into two categories: structural features and core features. Structural features are defined as the "characteristics of the structure of a professional development activity," (Dismone, et al., 2002, p. 83) and core features are the "characteristics of the substance of the activity (Dismone et al., 2002, p. 83). Table 6 provides a description of the six key features of professional development.

Table 6

Key Features of Professional Development Theorized to Impact Teaching Practice

Structural Features	Description
Reform Type vs. Traditional	such as a study group, teacher network, mentoring relationship, committee or task force, internship, research project, in contrast to a traditional workshop (structured by a leader or expert, occurring outside of the teacher's classroom, attended at a scheduled time)
Duration	total number of contact hours that the participants spend in the activity, as well as the span of time over which the activity takes place
Collective Participation	groups of teachers from the same school, department, or grade-level, as opposed to the participation of individual teachers from many schools
Core Features	**Description**
Active Learning	opportunities for teachers to become actively engaged in the meaningful analysis of teaching and learning
Coherence	by incorporating experiences that are consistent with teachers' goals, aligned with state standards and assessments, and encouraging continued professional communication among teachers
Content Focused	degree to which the activity is focused on improving and deepening teachers' content knowledge

Note: Taken from Desimone et al. (2002, p. 83).

Research Questions

The questions that guide this study are:

1. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of text balance (shift one) in the classroom?
2. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of knowledge in the disciplines (shift two)?
3. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of staircase of complexity (shift three) in the classroom?
4. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of text-based answers (shift four) in the classroom?
5. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of students writing from sources (shift five)?
6. What is the perceived relationship, if any, between each of the features of professional development and teacher reported use of academic vocabulary (shift six) in the classroom?

Design of the Study

The participants completed an electronic survey in January 2014 asking them to report information concerning their most recent professional development experience on the topic of ELA. The survey and statistical analysis is modified from the *Teacher*

Activity Survey that was developed for the national evaluation of the Eisenhower Professional Development Program (Garet, Birman, Porter, Dismone, Herman, & Yoon, 1999). The purpose of the study for which this survey tool was originally designed was to examine the relationship between the features of professional development and teachers' self-reported change in practice (Garet et al. 2001), therefore, aligning with the purpose of this study. The Garet et al. (1999) survey was used to examine changes in mathematics and science classrooms, so the survey was modified to examine changes in ELA instruction. Garet and Yoon have granted permission to modify the *Teacher Activity Survey* for use in this study (see Appendix A).

Variables

The dependent variables in this study are the self-reported use of the six shifts of the ELA Common Core State Standards. The independent variables are the features of the professional development experiences. The following features are measured: type (reform vs. traditional), duration, presence of collective participation, degree of active participation, coherence, and content focus. The demographic variables are special programs at the school level that impact available professional development, teacher demographics, and the activity sponsor. Special programs, such as Title I and Teacher Incentive Fund Grants, affect the professional development experiences offered at the school level. These programs are explained in the *Descriptions of WCPS Programs* section at the conclusion of chapter 1. WCPS professional development is sponsored either by the Maryland State Department of Education (MSDE), Washington County Public Schools (WCPS), the Chesapeake Coalition of Essential Schools (CES), or by the individual schools' leadership teams.

Participants

The target population for this study is elementary school classroom teachers employed by Washington County Schools (WCPS). There are 472 teachers in WCPS who meet the population criteria. All 472 teachers were invited to participate in the study. The teacher demographics and school type were examined to determine the possibility of survey response/non-response bias.

The survey responses are anonymous, as the results do not include any identifiable participant information. There is no known risk for participating in the study. The results are presented by statistical descriptors of demographic groups, including professional development sponsor and school. Results are not shared or tabulated for specific schools. Also, the researcher disclosed to the invited participants that the purpose of the study is to determine which professional development features are more likely to influence the self-reported use of the ELA Common Core.

Data Collection Procedures

The survey instrument for this study was developed for use in a cross-sectional national study (Garet et al., 2001) and a follow-up longitudinal study (Desimone et al., 2002). The longitudinal study yielded similar results to the cross-sectional survey, therefore strengthening the reliability of the data gathered in the original studies. Because the survey used for this study is modified from an established national survey, field-testing occurred to increase validity of the instrument (Creswell, 2009).

Cognitive testing of six elementary non-classroom teachers, using the think aloud method with probing was used to improve the modified survey. Think aloud provides the survey developer with direct information about participant comprehension problems and

"has the potential to identify problems in other phases of the response process, for example, performance tasks, such as recall, or using the response options" (Czaja & Blair, 2005, p. 115). Also, Czaja and Blair (2005) asserted, "cognitive interviews can be especially useful when the respondents' tasks or the question concepts are potentially difficult" (p. 115). Therefore, by field-testing using cognitive interviews, the researcher was able to determine that the survey participants had the necessary knowledge of the six instructional shifts in the ELA Common Core and of professional development features. To improve the response rate and prevent survey fatigue, in addition to the cognitive field-testing, participants were asked to provide feedback on the aesthetics, design, length, and completion time.

Five survey items were modified as a result of the field-testing. The changes included specifically defining ELA as reading, writing, speaking and listening, and language on the first survey item. The direction, "Please choose only your most recent professional development experience," was also added to the first item. Item two was modified to allow participants to select all applicable descriptions instead of only one. Permission to approximate the response for item six (How many hours do you expect to be engaged in the activity between now and the end of the school year?) was added to that item's directions. Survey item eight was reworded for clarity. Some of the response choices on item 15 were combined to reduce the length and complexity. The survey for this study can be found in Appendix B. The following table shows each survey question aligned with each variable.

Table 7

Variables Aligned with Specific Survey Questions

Variables	Survey questions
Reform type	2)Which of the following best describes the activity?
Duration	4) Over what period of time was the activity spread, including the main activity and any formal preliminary or follow-up sessions? 6) How many hours to do you expect to be engaged in this activity between now and the end of the school year? 7) Between the start of the activity and the present date, including the main activity and any preliminary activities or formal follow-up sessions, how many overall hours were you engaged in the activity?
Collective participation	14) Which of the following characterize the participants in this activity?
Content focus	8) During the professional development activity, how much emphasis was given to using a balance of informational and literary text in the classroom? 9) During the professional development experience, how much emphasis was given to teaching students through the reading of content area texts and/or students writing across content areas? 10) During the professional development activity, how much emphasis was given to understanding text staircase of complexity? 11) During the professional development activity, how much emphasis was given to understanding how to engage students in rigorous evidence-based conversations and writing about text?

Table 7 (continued)

Variables Aligned with Specific Survey Questions

Variables	Survey questions
	12) During the professional development activity, how much emphasis was given to students writing from sources? 13) During the professional development activity, how much emphasis was given to building students' academic vocabulary?
Coherence	16) Have you discussed what you learned with other teachers in your school or in your grade-level who did not attend the activity? 17) Have you discussed or shared what you learned with administrators? 18) Outside of formal meetings held as part of the activity, have you communicated with participants of the activity who teach in another school? 19) 20) 21) 23) 24) To what extent was the professional development activity: consistent with your own goals for your professional development; consistent with your school's or your grade-level's plan to change classroom practice; based explicitly on what you had learned in earlier professional development experiences; designed to support state or district standards/curriculum frameworks; designed to support state or district assessments? 22) To what extend were there follow-up activities that built upon what you learned in this professional development activity?
Active learning	15) Which of the following did you engage in during the activity?
The six instructional shifts	25) How often to the following instructional shifts occur in your classroom as a result of the professional development activity?

First in the survey, the participants were directed to identify and briefly describe their most recent professional development experience for ELA. The responses to the survey items about the features of the professional development that followed are based on the identified most recent experience.

Activity type. The teachers were directed to specify the type of activities in which they participated for the professional development experience (see Appendix B, item 2). Garet et al. (2001) offered the participants in their study a choice of 10 categories: four traditional activities (within-district workshops, courses for college [or MSDE] credit, out-of-district workshops, and out-of-district conferences), and six reform type activities (teacher study groups, teacher collaboratives or networks, committees, mentoring, internships, and resource centers). The survey for this study uses the same item to measure activity type, with one response modification. Due to the cognitive field-testing for this study's survey, the item's directions were modified from "choose only one response" to "select all that apply." The activities are coded in a categorical score of traditional = 0 or reform = 1, as measured in the Garet et al. (2001) analysis of professional development.

For this study, because of the allowance of multiple responses to this survey item, a composite variable was calculated from the mean of each participant's response. This creates a proportional variable of reform-type activities. For example, if a participant described the activity as within-district workshop, teacher study groups, and committees, then the response is assigned the value of 0.67.

Duration. The survey items in this study used to measure duration are directly from the national *Teacher Activity Survey* (Garet et al., 1999). The teachers were asked

to select the span in which they participated in the professional development experience on a scale ranging from less than one day to more than one month. The participants also indicated the number of hours in which they were engaged in the activity (see Appendix B, items 4-7). As in the Garet et al. (2001) study, the time span was converted to a scale where 1= less than one day, and 6 = more than one month, and the hours were used as the true numerical value.

Collective participation. The teachers indicated if they worked collaboratively with school or grade-level teams as part of the professional development activity to measure collective participation (Garet et al., 2001). This survey item is not modified (see Appendix B, item 14). Collective participation is rated as 0 = no collective participation, 1 = somewhat collective, and 2 = full collective participation (Garet et al., 1999). When more than one response was provided, the highest level of collective participation was assigned.

Content. The participants were asked to indicate the degree of emphasis the professional development experience gave to deepening the required ELA Common Core content knowledge in order to apply the instructional shifts (see Appendix B, items 8-13). The shifts are the specific content to be evaluated. This survey item was modified from the *Teacher Activity Survey* (Garet et al., 1999) to fit the content of the ELA Common Core instructional shifts. As in the Garet et al. (1999) survey, a three point scale was used (no emphasis = 0, minor emphasis =1, major emphasis =2).

Active learning. The national *Teacher Activity Survey* (Garet et al., 2001) asked the participants about "four dimensions of active learning: observing and being observed teaching; planning for classroom implementation; reviewing student work; and

presenting, leading/participating in discussions, and writing" (Garet et al., 2001, p. 925). For this study, observing and being observed includes providing and/or receiving feedback by peers, coaches, administration, or video. Planning for classroom implementation includes lesson, unit, or long-term planning, selecting resources for use, developing student activities, and developing student assessments. Reviewing student work includes using protocols to examine student work, scoring with rubrics, and examining common assessment or standardized data and using assessments to group students. This study will use Garet et al's. (2001) description of presenting, leading/participating in discussions and writing as giving a lecture or presentation; conducting a demonstration lesson, unit or skill; leading discussions; or writing a paper, report, or plan (p. 926). The non-active learning responses are assigned the dummy variable 0 and the active learning responses are assigned as 1.

Participants were asked to select all of the descriptors that applied to the professional development experience (Garet et al., 1999) and a composite index (0-1) was created from the mean of the selected responses (see Appendix B, item 15). A total active variable was also assigned to each participant response to represent the number of active learning activities selected.

Coherence. The coherence of the professional development activity is assessed using the same methods as the *Teacher Activity Survey* (Garet et al., 1999):

> The extent to which it builds on what teachers have already learned [including aligned follow-up activities]; emphasizes content and pedagogy aligned with national, state, and local standards, frameworks, and assessments; and supports teachers in developing sustained ongoing professional communication with other

teachers who are trying to change their teaching in similar ways. (Garet et al., 2001)

The participants were asked to indicate the degree of coherence for each survey item on a scale from 1 (not at all) to 5 (to a great extent). An overall index of the alignment component of coherence is computed from the mean of the responses (see Appendix B, items 19-24).

For the professional conversations component of alignment (see Appendix B, items 16-18), the same three items from the Garet et al. (1999) survey are used. "No" responses are coded as 0 and "yes" responses are coded as 1. A composite variable is created from the mean of the responses.

Use of the Six ELA Pedagogical Shifts. Use of the ELA Common Core is reported by the use of the six pedagogical shifts in classroom teaching practice. The teachers were asked to what extent they made the changes described by the shift (balancing informational and literary text, knowledge in the disciplines, staircase of complexity, text-based answers, writing from sources, and academic vocabulary) as a result of the professional development experience (see Appendix B, item 25). The participants indicated their degree of use on a scale from 0-3 (0= not occurring, 1= occurring sometimes, 2 = occurring often, 3 = occurring daily). The scale descriptors are modified from the *Teacher Activity Survey* (Garet et al., 1999) items used to determine changes in mathematics and science teaching practices due to a professional development experience (no change, minor change, moderate change, significant change).

Demographic variables. Teacher and school characteristics and the sponsor for the professional development activity were examined. Common Core professional

development opportunities have been sponsored by the MSDE, WCPS, CES and at the individual school level. The following teacher demographics were collected: years of experience, number of years in the same school, current grade-level, number of years teaching the same grade, and gender. The special programs in WCPS schools are Professional Development Schools (PDS), CES, Teacher Incentive Fund Grant (TIF), Magnet School Status, Title I, and Arête School. Some schools participate in multiple programs. The *Descriptions of WCPS Programs* section at the conclusion of this chapter provides a brief overview of each of these programs.

Data Analysis Procedures

Information concerning the population who did and did not complete the survey is included as analysis for response bias. The demographic information collected from the surveys is used to determine if part of the population with a specific demographic characteristic is missing from the responses.

The Cronbach Alpha method, used when there is a range of possible answers for each item (McMillan, 2008), is used to establish internal consistency for survey items in which a composite index was calculated. These items are for content (items 8-13), coherence (items 16-18 and items 19-24), and use of the instructional shifts (item 25). The composite indexes are created from the mean of the responses for each item.

To determine if a relationship exists between the independent and dependent variables, a correlation table was created and analyzed for significance. Ordinary least squares regression (OLS regression) is used to determine if the independent variables are predictors for the dependent variables. OLS regression can be applied to model "a single response variable which has been recorded on at least an interval scale…or multiple

explanatory variables and also categorical explanatory variables that have been appropriately coded" (Hutcheson, 2001, para. 1). For this study, participant responses are measured using interval scales and categorical selections, converted to dummy variables; therefore, OLS regression is an appropriate technique to analyze relationships among the independent and dependent variables. The model study for the theoretical framework and survey instrument (Garet et al., 1999; Garet et. al., 2001) utilized OLS regression technique. The OLS equations for the study are as follows:

$$Y_1 = Y_1\ \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_1 = text balance responses on survey

$$Y_2 = \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_2 = knowledge of disciplines responses on survey

$$Y_3 = \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_3 = staircase of complexity responses on survey

$$Y_4 = \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_4 = text-based answers responses on survey

$$Y_5 = \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_5 = writing from sources responses on survey

$$Y_6 = \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_6 = academic vocabulary responses on survey

$$Y_7 = \alpha + \beta_1 X_1(\text{type}) + \beta_2 X_2(\text{span}) + \beta_3 X_3(\text{hours}) + \beta_4 X_4(\text{collective}) + \beta_5 X_5(\text{active}) + \beta_6 X_6(\text{total active}) + \beta_7 X_7(\text{discuss}) + \beta_8 X_8\ (\text{alignment}) + \beta_9 X_9(\text{content})$$

Y_7 = shift composite (total shifts)

In the equations the professional development features (independent variables) are represented by the following: type = reform vs. traditional, span = duration time span, hours = total hours, collective = collective participation, active = active learning index, total active = the total number of active learning activities, discuss = professional conversations component of coherence, alignment = alignment component of coherence, content = content focus.

Limitations

A major methodology limitation is the use of self-reported teacher behaviors with an anonymous survey. The use of a single data collection instrument limits the reliability

of the self-reports. An additional data collection method, such as examining lesson plans for evidence of the instructional shifts, or classroom observations could have strengthened the reliability of the survey results. However, due to the time frame of the study and the researcher's role in the school system, these additional methods were not feasible. Also, these methods would not have allowed for study participant anonymity. While there is a danger of teachers reporting what they believe to be the favored response (McMillan, 2008), Garet et al. (2001) asserted that when data are based on the self-accounting of behaviors and not direct judgments of quality, such as the data to be collected for this study, bias is less likely.

While early prior research claimed that teachers often did not accurately report what they do in their classrooms (Hook and Rosenshine, 1979), later studies showed that self-reports can be strengthened (Koziol & Burns, 1985). Koziol and Burn (1985) asserted that focusing on one particular content area, specifying the context, and asking about a past practice are all methods to increase the accuracy of self-reports. This study focused on six specific contents or instructional practices within the content of ELA. Focusing on less practices may have increased the accuracy of the self-reports, yet the reports are likely more accurate than asking the teachers to respond about their ELA Common Core instruction as a whole.

Specifying the context of the instructional practice would have been another way to improve the trustworthiness of the teacher self-reports (Koziol & Burns, 1985). For example, even though elementary teachers teach ELA for 90 minutes per day, narrowing the context of the self-report to the previous instructional week could have been a method to strengthen the reliability of the reports.

Another limitation is the use of correlation analysis, as it does not indicate cause and effect. The study will not be able to determine which features of professional development cause changes in classroom practices; it only determines the possibility of correlation between the specific features of professional development and teacher self-reported use of instructional shifts.

The modification of the *Teacher Activity Survey* also poses some limitations, specifically in the measure of reform vs. traditional activity type due to the allowance of multiple responses to this survey item. A proportional variable of reform-type activities was created to assign a value to the activity type. For example, if a participant described the activity as within-district workshop, teacher study groups, and committees, then the response is assigned the value of 0.67. This is a limitation because a respondent who participated in two reform activities could be assigned the same activity score as a respondent who participated in four reform activities. Additionally, this proportional calculation may not accurately capture the proportion of actual time spent in each activity. For instance, a respondent who spent two hours in lecture and four hours in a study group would be assigned the same activity type score as a respondent who spent five hours in lecture and one hour in a study group.

Lastly, this study is limited as it does not measure actual change in teacher practice; it measures assumed change. While the instructional shifts for the classroom use of the ELA Common Core is assumed to be a change of classroom practice, this study does not measure, nor ask teachers to self-report on their use of the shifts prior to the professional development experience.

Summary

In a landmark cross-sectional and follow-up longitudinal study using OLS regression, Garet et al. (2001) and Dismone et al. (2002) confirmed that specific core and structural features of professional development positively impact teacher learning and self-reported change in classroom practice. These features are type (reform vs. traditional), duration, collective participation, active learning, coherence, and content focus. The results of their studies were based on the administration of the *Teacher Activity Survey* (Garet et al., 1999). This study uses a modified version of the same survey and statistical methods to ask WCPS elementary teachers to report information concerning the features of their most recent professional development experience and use of the six ELA Common Core instructional shifts in the classroom. OLS regression and correlational analysis is used to determine if a relationship exists between specific features of professional development and self-reported classroom use of the six ELA Common Core instructional shifts.

CHAPTER 4

RESULTS

In this study elementary school teachers were asked to identify their most recent ELA professional development experience. The teachers then responded to a series of survey items to determine the presence of six specific features of the identified professional development experience. The six features are reform vs. traditional type, duration, content, collective participation, active learning, and coherence (Garet et al., 2001). Last, the teachers reported on their classroom use of the ELA Common Core State Standards instructional shifts. The purpose of this study is to determine if there is a relationship between the six features of professional development and teacher self-reported classroom of use of the ELA Common Core instructional shifts.

This chapter provides the results from the returned surveys. First, the teacher demographics and school program information is presented. Second, the professional development experiences and features are provided, followed by the teacher self-reported frequency of use of the ELA instructional shifts. The results from the correlation and ordinary least-squares regression analysis conclude the chapter.

The survey has a 19% response rate: 472 teachers were invited to participate, and 89 surveys were returned. Two surveys are removed from the study due to discrepant participant responses to the survey items. To obtain enough responses for variability and validity, the minimal necessary response rate is 12.5% (61 valid responses). Therefore, the survey responses yield sufficient data for the study. The minimal necessary response rate is determined by the following parameters: an anticipated effect size of 0.25, a statistical power level of 0.8, six predictors, and a probability level of 0.05. The effect size of 0.25 is selected because it represents a substantively important effect, as defined

by the U.S. Department of Education's What Works Clearinghouse (U.S. Department of Education, 2013). It should also be noted that some of the survey items were skipped by some of the respondents. The frequency tables in this chapter show the total number of responses for each survey question.

Demographic and School Program

The teacher demographics and school programs are examined to determine the possibility of response/non-response bias. Tables 8-11 show the frequencies of the demographic and school data.

Table 8

Gender Frequency Table

Gender	Frequency	Percent	Valid percent
Female	83	95.4	95.4
Male	4	4.6	4.6
Total	87		

As presented in the table, 95.4% of survey respondents are female. The response does not represent significant gender bias, as 91% of the invited survey participants are female. Therefore, the gender of the respondents accurately represents the study population.

Table 9

Grade Taught Frequency Table

Grade	Frequency	Percent	Valid percent	Total population percent
Kindergarten	15	17.2	17.2	16.9
First	14	16.1	16.1	17.5
Second	15	17.2	17.2	17.3
Third	13	14.9	14.9	16.7

Table 9 (continued)

Grade Taught Frequency Table

Grade	Frequency	Percent	Valid percent	
Fourth	18	20.7	20.7	16.1
Fifth	12	13.8	13.8	15.9
Total	87			

The table shows that the grade levels taught by the survey respondents are close to equal frequency distribution. The frequency of one grade-level of teachers is not significantly higher or lower than the other grade-levels. The table also demonstrates that the survey respondents closely represent the entire study population with fourth grade teachers being slightly over-represented in the results.

Table 10

Total Years Teaching Frequency Table

Years	Frequency	Percent	Valid percent
First	6	6.9	6.9
2-4	8	9.1	9.1
5-10	28	32.2	32.2
11-20	25	28.7	28.7
More than 20	20	23.0	23.0
Total	87		

The table highlights that 84% of the survey participants have five or more years of total teaching experience. This means that the majority of the teachers surveyed taught prior to the introduction of the Common Core State Standards. Unfortunately, this demographic data for the specific study population is not available to the researcher; therefore, non-response bias cannot be accurately determined for this demographic

variable. Based on the researcher's prior involvement with the school system, it is known that few new teachers have been hired in the school system in the previous five years. This could lead to the conclusion that 84% of the respondents teaching more than five years is probably close to an accurate representation of the study population.

Table 11

School Program Frequency Table

Program	Frequency	Percent	Valid percent	Percent of total schools in WCPS
PDS	8	9.1	9.1	7.4
CES	26	30.0	30.0	25.9
TIF	0	0.0	0.0	14.8
Magnet	6	6.9	6.9	11.1
Title I	5	5.7	5.7	22.2
Arete	0	0.0	0.0	18.5
Multiple	19	21.8	21.8	22.2
No response	23	26.4	26.4	
Total	87			

It is apparent from this table that 26.4% of the participants did not answer the survey item indicating school programs. As "none" was not offered as a response choice, either the participant chose not to answer the question or her school does not participate in any of the listed programs. Due to the fact that all of the participants provided a response to nearly all of the other selected response survey questions (Five selected response survey items are not answered by all of the participants), it can be assumed that the majority of the nonresponse is to indicate "none."

The table also demonstrates that 30% of the respondents teach in schools that participate in the Coalition of Essential Schools (CES), and 21.8% teach in schools with multiple programs. A description of each of these school programs can be found at the end of chapter 1. It should be noted that schools participating in CES, Title I, TIF, and Arete are provided with specialized professional development and coaching. Therefore, teachers in those schools receive more professional development than teachers in schools with no specialized programs. Teachers in schools with specialized professional development programs represent 57.4% of the survey participants.

There is possible response bias in school program demographic. Most noticeably, teachers from TIF and Arete are missing from the response data completely. Also, there is a large discrepancy between the number of title one schools (22.2% of schools in WCPS) and the number of survey respondents from Title I schools (5.7%). Therefore, the results do not represent the professional development experiences of teachers from these schools. However, it should be noted that teachers from these schools could be represented in the "no response" category.

Professional Development Experiences

The survey participants were asked to write the title and/or a brief description of their most recent English language arts professional development experiences. The following table lists the descriptions from the responses. A more in-depth explanation of each of these descriptions is included at the conclusion of chapter 1.

Table 12

Professional Development Written Description Frequency Table

Description	Frequency	Percent	Valid percent
Lucy Calkins	17	20.0	20.0
Curriculum mapping/ scrolling/unpacking standards	33	38.8	38.8
CFIP/planning/ collaborative planning	8	9.4	9.4
Fundations/Wilson	2	2.4	2.4
Action research	1	1.2	1.2
Junior Great Books	1	1.2	1.2
Close reading	2	2.4	2.4
Questioning	3	3.5	3.5
PARCC	1	1.2	1.2
Developing assessments	2	2.4	2.4
Observing other teachers	1	1.2	1.2
Common Core	4	4.7	4.7
Multiple	10	11.8	11.8
Total	85		

If the survey participant listed two or more titles/descriptions that are listed by other respondents, the description is coded as multiple. Four respondents used the exact words “Common Core” to describe the professional development experience. All of the descriptions are professional development experiences that can be matched to the English Language Arts Common Core State Standards. Two participants did not answer this question.

The data shows that over half of the respondents (58.8%) participated in either Lucy Calkins or curriculum mapping/scrolling/unpacking standards. Therefore, the design features of these professional development experiences are represented more in the study than the features of the other reported professional development experiences. It should be noted that even though Lucy Calkins and curriculum mapping constitute the majority of the most recent experiences, there are differences in professional development with the same title. For example, the Lucy Calkins professional development is differentiated by grade-level, and each grade-level has a different facilitator who plans the specific learning activities. The curriculum mapping/scrolling/unpacking standards professional development occurs at the school-level, and the features vary due to the choices of the school administration.

Curriculum mapping/scrolling/unpacking standards is a professional development experience that started in CES schools at the beginning of the school year and was beginning to occur in other schools at the time of the survey. This professional development represents 38.8% of the responses and CES schools represent 30% of the responses. This demonstrates consistency in these two survey responses. Interestingly, CES is named as the sponsor for only 8.0% of the professional development experience, and school administration or lead teacher is the sponsor for 56.3%. This may be due to the design of the curriculum mapping/scrolling/unpacking professional development. While this professional development experience was introduced by CES, it occurs at the individual school level, mostly facilitated by school leadership. Table 12 shows the frequency of the professional development sponsors.

Table 13

Sponsor Frequency Table

Sponsor	Frequency	Percent	Valid percent
MSDE[a]	6	6.9	7.4
WCPS[b]	19	21.8	23.5
CES	7	8.0	8.6
School admin or lead teacher	49	56.3	60.5
Unsure	6	6.9	
Total	87		

[a]Maryland State Department of Education. [b]Washington County Public Schools.

Over half (56.3%) of the professional development experiences in this study are sponsored by individual school leadership. WCPS is named as the sponsor for 21.8% of the professional development and Table 12 presents Lucy Calkins, Fundations/Wilson, and Junior Great books as 23.5% of the professional development experiences. This demonstrated consistency of response for these two questions as those are the only WCPS sponsored professional development experiences named in the survey responses.

Features of Professional Development

Type. Study participants completed survey items to determine the presence of the six features of professional development: type, duration, content focus, coherence, collaboration, and active engagement. The type of professional development can be categorized as traditional or reform. Table 13 displays the frequency of responses for the types of professional development experiences.

Table 14

Type Frequency Table

Type	Frequency	Percent	Valid percent
Traditional	21	24.4	24.4
Reform	47	54.7	54.7
Both	18	20.9	20.9
Total	86		

The table shows that 79.6% of the professional development consists of at least some reform activities, and 45.3% consists of at least some traditional activities. The frequencies of the specific type descriptions are in Table 14. Respondents were directed to select all that apply when selecting the description of the professional development. Based on the work of Garet et. al. (2001), participation in an in-district workshop or institute, attendance at a college or MSDE course, attendance at an out-of-district workshop or institute, and attendance at an out-of-district conference are traditional activities. For the other responses, CFIP and action research are considered reform activities, and on-line class is traditional.

Table 15

Type Descriptions Frequency Table

Description	Frequency	Percent	Valid percent
In-district workshop or institute	28	19.7	19.7
College or MSDE course	18	12.7	12.7
Out-of-district workshop or institute	1	0.70	0.70

Table 15 (continued)

Type Descriptions Frequency Table

Description	Frequency	Percent	Valid percent
Teacher collaborative or network	32	22.5	22.5
Out-of-district conference	3	2.1	2.1
Internship or immersion	1	0.70	0.70
Mentor, coach lead teacher or observer	37	26.0	26.0
Teacher resource center	7	4.9	4.9
Committee or task force	4	2.8	2.8
Study group	8	1.9	1.9
Other: CFIP	1	0.70	0.70
Other: action research	1	0.70	0.70
Other: online class	1	0.70	0.70
Total	142		

The table shows that the two traditional activities of in-district workshop or institute (19%) and college or MSDS course (12.7%), the two reform activities of teacher collaborative or network (22.5%), and working with a mentor, coach, leader teacher, or observer (26%) are the most frequent activities.

For the correlational and regression analysis, professional development type is represented as a 0-1 variable where 0 is only traditional activities, and 1 is only reform

activities. If a participant selected more than one activity description, a composite variable is created by the mean of the coded responses. For example, if a respondent selected one traditional activity and three reform activities, the response is assigned a value of 0.75. The mean of the coded response variables for professional development type is 0.66 with a standard deviation of 0.42.

Duration. Duration of the professional development experiences is reported in time span and total hours. The minimum total hours reported is 30 minutes and the maximum is 52 hours and 30 minutes. The mean is 10.55 hours with a standard deviation of 10.98. The standard deviation is greater than the mean; therefore, the mean is not representative of the data. One standard deviation below the mean is less than 0 hours. One standard deviation above the mean is 21.53 hours.

The respondents' choices for time span are less than one day, one day, two-four days, a week, a month, and more than one month. Table 15 displays the frequency of the reported time spans.

Table 16

Time Span Frequency Table

Duration	Frequency	Percent	Valid percent
Less than 1 day	26	29.9	29.9
1 day	6	6.9	6.9
2-4 days	10	11.5	11.5
A week	4	4.6	4.6
A month	8	9.2	9.2
More than 1 month	33	37.9	37.9

Table 16 (continued)

Time Span Frequency Table

Duration	Frequency	Percent	Valid percent
Total	87		

As the table shows, the reported durations for the professional development activity are more likely to be less than one day (29.9%) or more than one month (37.9%). A time span variable was created for the correlation and regression analysis. Less than one day is represented by the value of zero, and more than one month is represented as a value of five. The mean of the time span is 2.70 (between 2-4 days and a week). The value of the standard deviation is close to the mean (2.17), so 68% of the respondents participated in PD that ranged from 0.53 (between less than one day and one day) to the 4.87 (between one month and more than one month).

Content Focus. Study participants were asked to report on the content emphasis of the professional development experience using a scale of zero to represent no emphasis and two to represent major emphasis. Table 16 displays the frequency of the responses for content focus.

Table 17

Content Focus Frequency Table

Content/Emphasis	Frequency	Percent	Valid percent
Text balance			
No emphasis (0)	21	24.1	24.1
(1)	38	43.7	43.7
Major emphasis (2)	28	32.2	32.2

Table 17 (continued)

Content Focus Frequency Table

Content/Emphasis	Frequency	Percent	Valid percent
Reading in the content areas			
No emphasis (0)	9	10.3	10.3
(1)	38	43.7	43.7
Major emphasis (2)	40	46.0	46.0
Complex text			
No emphasis (0)	45	52.3	52.3
(1)	30	34.9	34.9
Major emphasis (2)	11	12.8	12.8
Evidence Based			
No emphasis (0)	22	25.3	25.3
(1)	41	47.1	47.1
Major emphasis (2)	24	27.6	27.6
Writing form sources			
No emphasis (0)	29	33.3	33.3
(1)	33	38.0	38.0
Major emphasis (2)	25	28.3	28.3
Vocabulary			
No emphasis (0)	28	32.1	32.1
(1)	42	48.3	48.3
Major emphasis (2)	17	19.5	19.5

As displayed in the table, 89.7% of the respondents report that the professional development has at least some emphasis on teaching students through the reading of content area text and/or students writing across content areas. Only 12.8% reported a major emphasis on understanding text staircase of complexity and 52.3% responded that there was no emphasis on text complexity.

A content focus composite variable is assigned for each respondent. The mean of all of the content focus composite variables is 0.99 and the standard deviation is 0.51

(0.48-1.5), indicating that more survey respondents participate in professional development that has at least some emphasis on the content of the instructional shifts. The alpha reliability for the content focus scale is 0.79.

Coherence. From the work of Garet et. al. (2001), coherence of the professional development experience comprised of on-going professional communication and alignment. Table 18 displays participant responses on the three professional communication survey items.

Table 18

Professional Communication

Discussed	Yes frequency	Percent	No frequency	Percent
With other teachers in your school or in your grade-level who did not attend the activity	46	52.9	41	47.1
Or shared what you learned with administration	47	54.7	39	45.3
With participants of the activity who teach in another school (outside of the activity)	25	29.0	61	70.9

Only five more respondents reported that they had discussed what they learned with teachers in their grade-level who did not attend the activity than those who did not. Eight more reported sharing with their administration than those who did not. Lastly, 70.9% responded that they had not discussed with the other participants outside of the experience. A composite variable is created for professional communication to use in the correlation and regression analysis. Dummy variables are used (no = 0 and yes = 1) to

create a communication variable for each respondent. The mean is 0.44, and the standard deviation is 0.34.

The Cronbach Alpha coefficient for the professional communication scale is 0.511, indicating that less confidence in the consistency of that scale. One cause for the lower Coefficient Alpha could be the number of survey items and size of the scale: This section has three items and two choices (yes, no) on the scale. Generally, to establish internal consistency, there should be at least five questions about the same topic (McMillion, 2008). Another reason is the topic of the survey items. For instance, if a participant chooses to discuss her professional learning with other teachers, it does not necessarily mean that she will also choose to discuss with school administration.

The participants responded to six survey items to report alignment of the professional development experience. The response choices ranged from not at all (1) to a great extent (5). The scale's alpha reliability is 0.812. Table 19 displays the mean and standard deviation of the responses for the alignment items.

Table 19

Alignment

Questions to what extent:	Mean	SD
Was the professional development activity consistent with your own goals for your professional development?	3.30	1.21
Was the professional development activity consistent with your school's or your grade-level's plan to change classroom practice?	3.86	1.05

Table 19 (continued)

Alignment

Questions to what extent:	Mean	SD
Was the professional development activity based explicitly on what you had learned in earlier professional development experiences?	3.07	1.25
Were there follow-up activities that built upon what you learned in this professional development activity?	3.30	1.31
Was the professional development activity designed to support state or district standards/curriculum frameworks?	4.38	0.82
Was the professional development activity designed to support state or district assessments?	3.57	1.32
All	3.58	0.84

The table highlights that the survey participants reported that nearly to a great extent (4.38) the professional development experiences are designed to support standards/curriculum frameworks. This question also has the smallest standard deviation. This is not surprising as, due to the implementation of the Common Core State Standards, the majority of the professional development offered is to help teachers use the new standards/curriculum frameworks in the classroom. This is also reflected in Table 11, showing that 38.8% of the respondents participated in curriculum mapping/scrolling/unpacking standards. The responses to the other survey items used to determine alignment have a similar mean and standard deviation.

Collective Participation. For the correlation and regression analysis, the reports for collection participation are assigned variables: Teachers as individuals (0), teachers as representatives of their departments, grade-level, or school (1), all teachers in a grade-level team (2), all teachers in a school or set of schools (3). One survey respondent replied, "goal focused teacher learning groups." This is coded as (1) as it would have been made up of teachers from different grade-levels. For teachers who selected more than one response, the assigned variable represents the highest reported level of collective participation. The mean is 1.48 with a standard deviation of 0.87 (0.61-2.35). Table 20 displays the frequency of responses.

Table 20

Collective Participation Frequency Table

Participants	Frequency	Percent	Valid percent
Individuals	30	27.0	27.0
Representatives	27	24.3	24.3
All in grade	45	40.5	40.5
All in school	9	8.1	8.1
Total	111		

Table 20 shows that all teachers in a grade-level team (40.5%) is the participation configuration that occurs most frequently. As reported in Table 12, curriculum mapping/scrolling/unpacking standards is the most frequent reported professional development experience (38.8%). This demonstrates consistency in the survey participants' responses as the curriculum mapping/scrolling/unpacking standards activity is completed in teacher grade-level teams.

Active Learning. The respondents had 16 choices, and the opportunity to write "other" to describe the types of activities in which they were engaged during their professional development experience. These activities are coded as active (1) or not active (0) from the work of Garet, et. al (1999). Non-active learning activities include listened to a lecture or presentation or observed a demonstration of a lesson or unit. Active learning includes the following: led or participated in a whole group or small group discussion, gave a lecture or a presentation, conducted a demonstration of a lesson, unit, or skill, planned, wrote a paper, report or plan, practiced using student materials, selected student resources, reviewed student work, scored student assessment, developed student activities, analyzed standardized student data, composed a piece of writing, used data to plan student groupings, or provided or received feedback. Other responses "unpacked standards" and "unpacked the program" are considered active learning. Respondents were directed to select all of the activities in which they participated: A value is assigned to their active learning variable based on the percentage of active learning activities in which they participated. For example, if a respondent selected three active learning activities and one non-active activity, her active learning variable is assigned a value of 0.75. The mean of all responses is 0.81 with a standard deviation of 0.21 (0.6 -1.02). More of the survey participants were engaged in active learning.

The composite active learning variable may not be representative of the number of active learning activities in which a respondent participated. Therefore, the total number of active learning activities for each respondent is also reported. This measure could range from 0 (did not select any active activities) to 14 (selected all of the activities). The actual range is 0-10 active activities. For example if a survey respondent

selected listened to a lecture or presentation (not active), reviewed student work, and developed student activities, her total active score is coded as 2. The mean total active is 3.56 and the standard deviation is 2 (1.56-5.56 activities). Table 21 presents the frequency of each reported activity.

Table 21

Activity Frequency Table

Duration	Frequency	Percent	Valid percent
Listened to lecture	51	14.3	14.3
Observed demonstration	20	5.6	5.6
Discussion	50	14.0	14.0
Gave lecture	18	5.1	5.1
Conducted demonstration	18	5.1	5.1
Planned	31	8.7	8.7
Wrote	24	6.7	6.7
Practiced	23	6.5	6.5
Selected resources	1	0.3	0.3
Reviewed work	23	6.5	6.5
Scored assessments	24	6.7	6.7
Developed activities	24	6.7	6.7
Analyzed data	0	0.0	0.0
Composed writing	0	0.0	0.0
Used data	23	6.5	6.5
Provided feedback	24	6.7	6.7
Other: unpacked	2	0.6	0.6
Total	356		

The table shows that respondents reported that nearly 20% (19.9%) of the activities were non-active, and 80% were active.

The Six Common Core Instructional Shifts

Survey respondents were asked how often the instructional shifts occur in their classroom as a result of their professional development experiences. Specifically, "How often do the following instructional shifts occur in you classroom as a result of the professional development activity?" Each shift has a choice of "not occurring" (0), "occurring sometimes" (1), "occurring often" (2), "occurring daily" (3). Table 21 displays the frequency of each response, the mean, and the standard deviation.

Table 22

The Instructional Shifts

Shift	Not (0)		Sometimes (1)		Often (2)		Daily (3)		Mean	SD
	n	%	n	%	n	%	n	%		
Text balance	7	8.3	15	17.9	42	50	20	23.8	1.89	0.86
Content areas	5	6	15	17.9	43	51.2	21	25	1.95	0.82
Complex text	4	4.7	17	19.8	35	40.7	30	35.7	2.06	0.86
Evidence based	5	6.1	29	35.4	29	35.4	19	23.2	1.75	0.88
Write from source	10	11.8	40	47.1	25	29.4	10	11.8	1.41	0.85
Vocabulary	4	4.7	22	25.9	39	45.9	20	23.5	1.88	0.82
Total Shifts									1.82	0.68

As shown in the table, the use of complex text is reported to occur more frequently than the other instructional shifts. Students writing by using evidence from sources is reported to occur less often than the other shifts. Overall, as evidenced by the

means and standard deviations, the participants reported that the instructional shifts are occurring between sometimes and often.

Correlations

SPSS predictive analytic software was used for the correlation and regression analysis of the survey data.

Features of Professional Development

Five features of professional development are correlated with teacher self-reported use of the six Common Core State Standards instructional shifts: type, alignment, content focus, active learning reported in total activities, and the professional conversation component of coherence. Type, total activities, and professional conversation show weak positive correlations. Alignment and content focus have strong positive correlations. Figures 2-6 show the features of professional development that are correlated with the instructional shifts

Figure 1. Instructional Shifts Correlated with Type

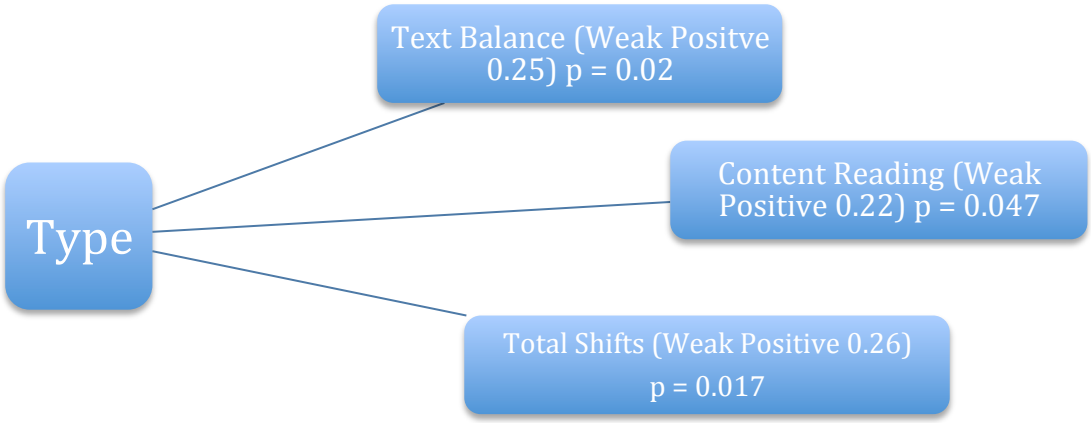


Figure 1. Type of professional development is weakly correlated with the self-reported use of text balance, students reading and writing across the content areas, and the total use of the shifts.

Figure 2. Instructional Shifts Correlated with Total Activities

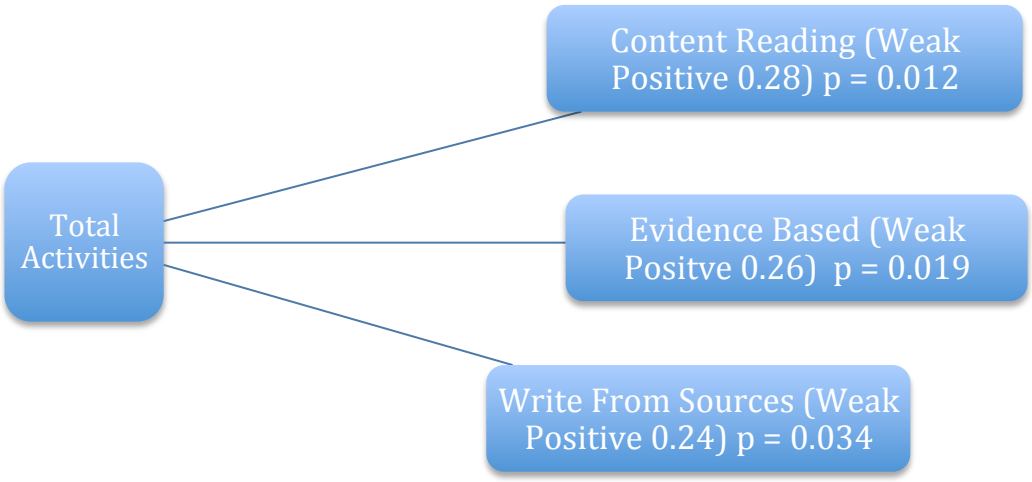
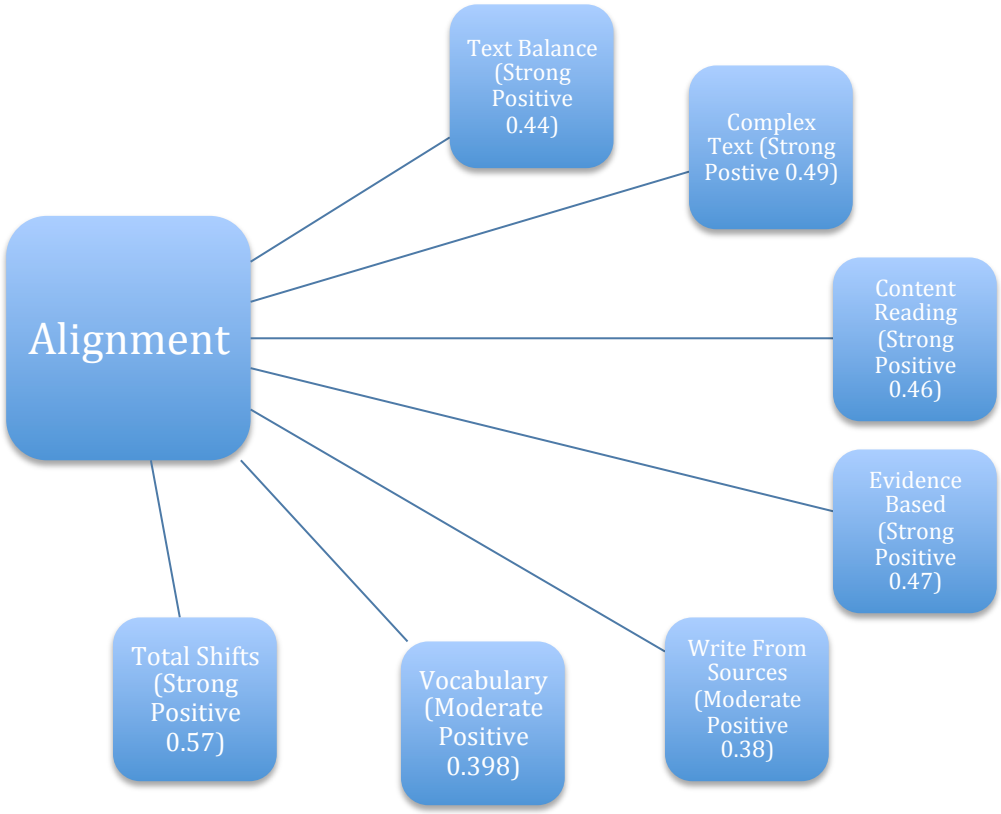


Figure 2. The total number of activities that are categorized as active learning is weakly correlated with a self-reported use of students reading and writing in the content areas, evidence-based discussion and writing, and students writing by using evidence from sources.

Figure 3. Instructional Shifts Correlated with Professional Discussions

Figure 3. The professional discussion component of coherence is weakly correlated with the teacher self-reported use of the instructional shift of students writing by using evidence from sources.

Figure 4. Instructional Shifts Correlated with Alignment



*p = 0.00

Figure 4. All of the self-reported instructional shifts are correlated with the professional development feature of alignment. All are strongly correlated at a 0.00 significance level; except for the vocabulary and writing from sources instructional shifts are moderately correlated.

Figure 5. Instructional Shifts Correlated with Content Focus

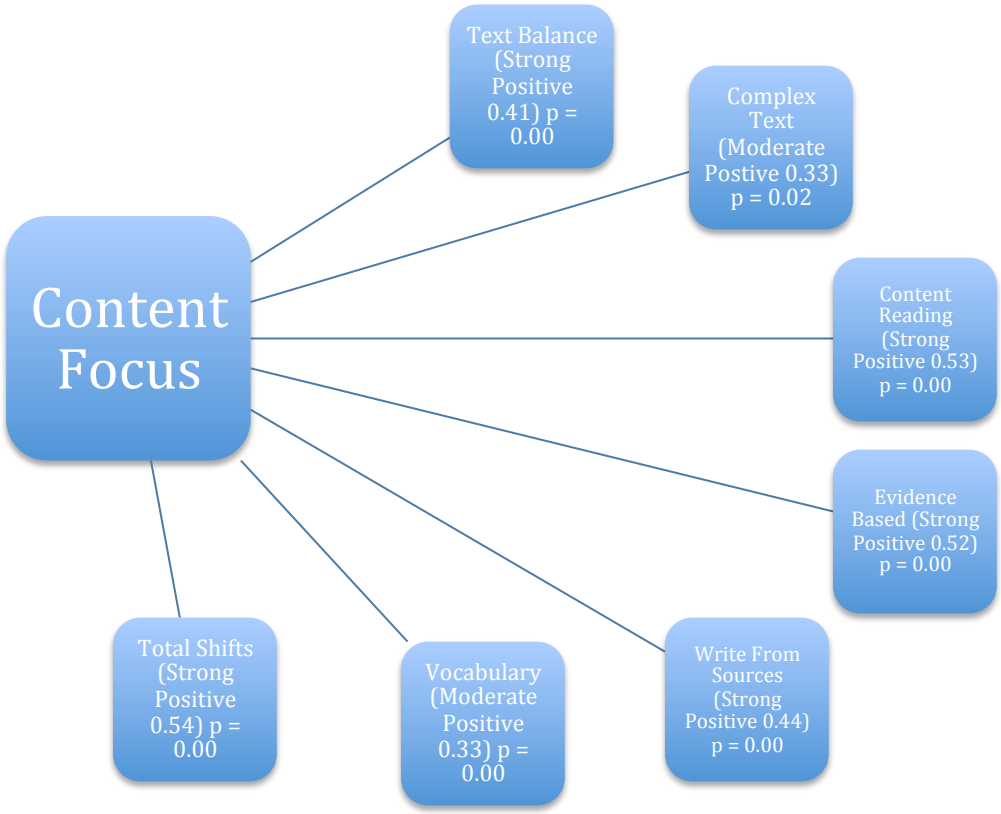


Figure 5. The professional development feature of focus on content is correlated with all of the ELA Common Core Instructional Shifts. All of the shifts have a strong positive correlation with content focus; except vocabulary and use of complex text are moderate correlations.

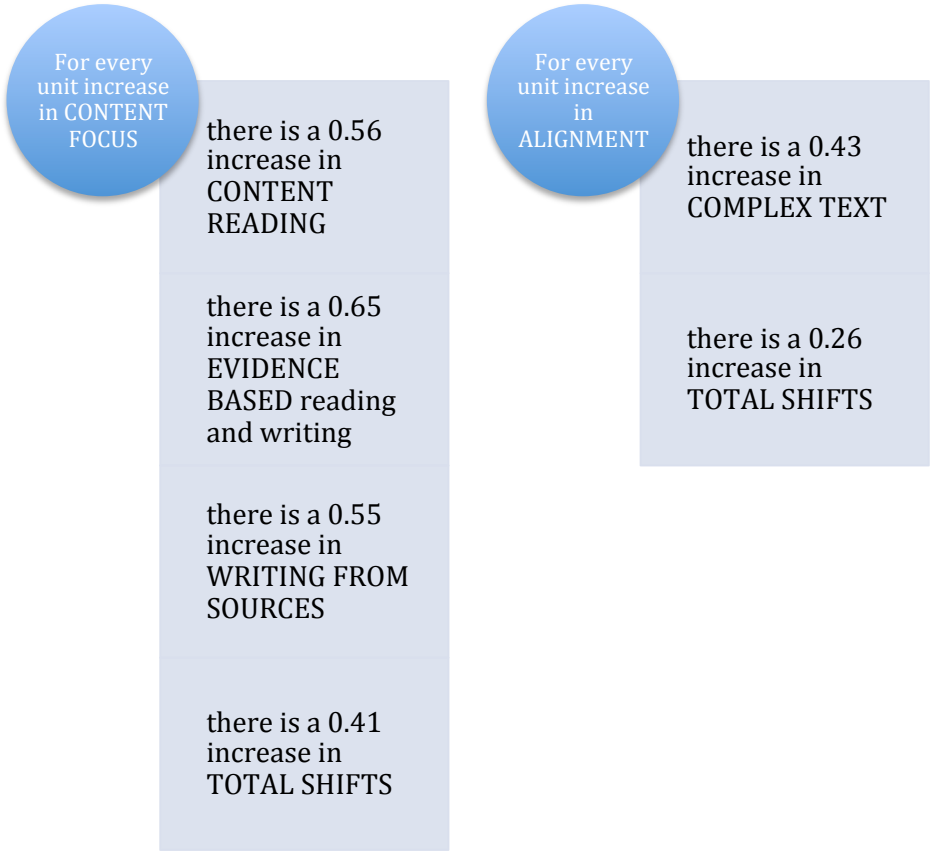
In summary, the professional development features of alignment and content focus are strongly correlated with the self-reported frequency of use of the ELA Common Core instructional shifts. The professional development features of type, total number of active activities, and professional discussions are weakly correlated with some instructional shifts. The professional development features that are not correlated with

the instructional shifts are duration (both span and total hours), coherence (except professional discussions is weakly correlated with writing from sources), collective participation, and active engagement (active vs. non-active).

Regressions

The regression analysis supports the results of the correlational analysis. Only the professional development features of alignment and content focus are predictors of the self-reported use of the instructional shifts. Content focus is the strongest predictor of the instructional shifts. The professional development features of type, duration (span and total hours), coherence, collective participation, and active engagement are not predictors of the self-reported use of the ELA Common Core instructional shifts. The regression analysis is summarized in Figure 6.

Figure 6. Results of the OLS Regression Analysis



*p< .05.

Figure 6. The regression analysis found the professional development feature of content focus to be a predictor for three instructional shifts and total shifts. Alignment is a predictor for one shift and total shifts.

Text Balance

The percent of variance in the self-reported use of text balance that can be accounted for by the independent variables, features of professional development, is 19%. None of the features of professional development are significant predictors of the use of the instructional shift of text balance.

Content Reading

The percent of the variance in the self-reported use of students learning through reading content specific texts and/or writing in the content areas that can be accounted for by the features of professional development is 29%. The professional development feature of content focus is a significant ($p = 0.013$) predictor of the self-reported use of the instructional shift of students learning through reading and writing in the content areas. For every unit increase in content focus during a professional development experience, there is a 0.56 increase in the self-reported use of the instructional shift of learning through reading and writing in the content areas.

Complex Text

The percent of the variance in the self-reported use of complex text that can be accounted for by the features of professional development is 21%. The professional development feature of alignment is a significant ($p = 0.004$) predictor of the self-reported use of the instructional shift of use of complex text for classroom instruction. For every unit increase in the alignment of the professional development experiences, there is a 0.43 increase in the self-reported use of complex text.

Evidence-Based

The percent of the variance in the self-reported use of engaging students in evidence-based discussion and/or writing about a text that can be accounted for by the features of professional development is 23%. The professional development feature of content focus is a significant ($p = 0.15$) predictor of the self-reported use of engaging students in evidence-based discussion and/or writing about a text. For every unit increase in the presence of content focus during a professional development experience, there is a 0.65 increase in the self-reported use of engaging students in evidence-based discussion or writing.

Write from Source

The percent of the variance in the self-reported use of students writing by using evidence from sources that can be accounted for by the features of professional development is 19%. The professional development feature of content focus is a significant ($p = 0.36$) predictor of the self-reported use of students writing from sources. For every unit increase in the presence of content focus during a professional development experience, there is a 0.55 increase in the self-reported use of students writing from sources.

Vocabulary

The percent of the variance in the self-reported use of students learning about and using academic vocabulary that can be accounted for by the features of professional development is 16%. None of the features of professional development are significant predictors of the use of the instructional shift of text balance.

Total Shifts

The percent of the variance in the self-reported use of the six English/Language Arts Common Core State Standards instructional shifts that can be accounted for by the presence of the features of professional development is 34%. The professional development feature of content focus is a significant ($p = 0.31$) predictor of the self-reported use of the instructional shifts. For every unit increase in the presence of content focus during a professional development experience, there is a 0.41 increase in the self-reported use of the instructional shifts. The professional development feature of alignment is a significant ($p = 0.014$) predictor of the self-reported use of the instructional shifts. For every unit increase in the presence of alignment during a professional development experience, there is a 0.26 increase in the self-reported use of the shifts.

Summary

This chapter presents the results from 89 surveys that asked elementary teachers to report the features of their most recent professional development experience and their frequency of use of the six ELA Common Core instructional shifts. The teacher demographic data and school programs were presented first. There is no evidence of response/non-response bias. Next, the frequencies of the reported titles/descriptions were listed: 58.8% of the reported experiences are Lucy Calkins and curriculum mapping/scrolling/unpacking standards. Individual school leadership sponsored 56.3% of the professional development.

The next section of chapter four describes the features of the professional development experiences and the self-reported frequency of use of the instructional

shifts. More reform activities (79.6%) than traditional activities (45.3%) are reported. For time span, 29.9% of the experiences are less than one day, while 37.9% are more than one month in duration. The content of the professional development is more likely to emphasize reading in the content areas than the other shifts. More than half (52.9% and 54.7%) of the respondents discuss their learning with their administration or other teachers at their schools, and 70.9% do not talk with other educators outside of their school. Most of the professional development experiences are designed to support state or district standards/curriculum frameworks and more (40.5%) include all teachers in a grade. Active learning is present in 80.1% of the activities. The use of complex text is reported to occur more frequently and write from source is reported less frequently than the other shifts.

The results of the correlation and regression analysis are presented last. All of the self-reported instructional shifts are correlated with the professional development features of alignment and content focus. Also, these two are the only predictive features. Content focus is a predictor for the instructional shifts of content reading, evidence-based reading and writing, writing from sources, and the shifts in total. Alignment is a predictor for the use of complex text and the shifts in total.

CHAPTER 5

DISCUSSION

The Common Core State Standards "require significant changes in instruction" (Grossman et al., 2003, p.3), and a number of educational experts (McLaughlin & Overturf, 2010; Melton, Sztajin, Marrongell, & Smith, 2011; Krehbiel, 2012; ASCD, 2012; Achieve, 2012; Killion & Hirsh, 2012; Killion, 2012; Grossman et al., 2011) agree that high-quality professional development is necessary to assist teachers as they transition to classroom use of the standards. To meet this need, state departments of education are enacting professional development plans, and vendors, along with other third-party providers, are offering a wide variety of professional development materials. The problem is that no research exists on the specific features that should be included in professional development designs in order to impact classroom use of the Common Core instructional shifts.

This preliminary study provides information that begins to address the research gap. Specifically, the purpose of this study is to determine if there is a relationship between teacher participation in professional development designed with six specific features and self-reported use of the six ELA Common Core instructional shifts. Taken from Garet et al.'s, (2001) and Desimone, et al.'s, (2002) research on high quality professional development, the six specific features examined in this study are type (traditional or reform), duration (time span and actual number of hours), collective participation, active learning, coherence (alignment and professional conversations) and content focus. In short, this study can be a beginning guide for the design of future

professional development plans in order to increase the use of the six ELA instructional shifts, and it could be used as one formative evaluation data point to determine the effectiveness of the professional development experiences that have already occurred in WCPS.

This chapter presents the discussion of the study's results. The major findings are reviewed first. Next, the findings are discussed and interpreted in light of the existing research on professional development and the model studies (Garet et. al., 2001; Disimone et. al., 2002). Then, the study limitations are provided, followed by the implications for practice and for future research.

Major Findings

The survey, modified from the *Teacher Activity Survey* (Garet et. al., 1999), asked teachers to describe the features of their most recent professional development and to then report on the frequency of their classroom use of the six ELA Common Core instructional shifts. Correlation and OLS regression analysis were used to determine the possibility of a relationship between the features of professional development and the self-reported use of the shifts. The results indicate that alignment (a component of coherence) and content focus are the only two features that are strongly correlated with self-reported use of the instructional shifts. Additionally, these features are likely to be predictors of self-reported use of the shifts in total. Specifically, content focus is likely to be a predictor of reported use of students reading and writing in the content areas, evidence-based reading and writing, and writing from sources and alignment are likely to be predictors of the reported use of complex text. The features type, total number of

active learning activities, and discussion are weakly correlated with the reported use of some instructional shifts.

Overall, the data seem to suggest that professional development aligned with teacher learning goals, previous professional development, standards/curriculum frameworks, and assessments, and that focuses on deepening teacher content knowledge about the six ELA Common Core instructional shifts, are likely to be related to self-reported use of the shifts in the classroom. Therefore, teachers who participated in professional development with these features reported that they use the instructional shifts in their classrooms more often than those teachers whose professional development was less aligned and less focused on content. As in the model study (Garet et al., 2001), only the features of coherence and focus on content knowledge had a direct correlation with change in teacher practice.

Consequently, whether the professional development was traditional or reform type, the duration, the collective participation, the presence of active learning, and the presence of professional conversations outside of the experience, show no relationship to teacher reported use of the instructional shifts. However, the Garet et al. (2001) study determined that the other features impacted teacher outcomes by working through the core features (active learning, coherence, and content focus). Similarly, the results of this study did correlate some features of professional development with other features. For example, collective participation is correlated with type (0.42), and the professional conversation component of coherence is correlated with time span (0.41). While these correlations are interesting, they are outside the focus and research questions for this study.

Discussion

Alignment. This study is in agreement with previous research (Archibald et al., 2011; Annenburg Institute, n.d.), demonstrating that the professional development feature of alignment, a component of coherence, is related to change in teacher practice. Alignment includes professional development experiences that are consistent with teachers' goals, previous professional learning, and state standards and assessments (Garet et al., 2001). The correlation between the teacher reported use of the instructional shifts and aligned professional development is also in accordance with the results of the model studies (Garet et al., 2001; Desimone et al., 2002), stating that coherence can be correlated with a positive change in teacher practice. As presented in those studies, alignment was one of the strongest indicators of classroom application of professional learning.

Content focus. Like others (Archibald et al., 2011; Blank and de las Alas, 2009; 2002; Kennedy, 1998; Wei, Darling-Hammond, & Adamson, 2010; Wilson, 2009) the results of this study indicate that the content of professional development is associated with teacher use of that content in the classroom. Specifically, the literature supports that a focus on teaching behaviors that apply to a particular subject (Archibald et al., 2011; Blank and de las Alas, 2009; 2002; Kennedy, 1998; Wei, et al., 2010; Wilson, 2009) is most effective in influencing classroom changes.

Type. The results from the Garet et al. (2001) study "show a modest direct effect of activity type on enhanced knowledge and skills, indicating that reform activities have

slightly more positive outcomes when all of the design features and quality characteristics in our model are included" (p. 930). Also, slightly more teachers reported changing their practice due to participation in reform activities (1.4 as compared to 1.2 on the 0-3 scale); "scores for both types of activities range across the entire distribution" (Garet et al., 2001, p.930). However, the follow-up study (Desimone, et al., 2002) did not find a positive effect for reform type professional development. The researchers concluded that it is more important to focus on the core features (active learning, coherence, and content) than type. This study is consistent with those findings for the core features of coherence and content. Interestingly, of the teachers participating in the Garet et al., study, 79% reported participating in traditional type activities, whereas only 19% of teachers in this study reported traditional activities. This could be an indication that in the 15 years since the *Teacher Activity Survey* was conducted, reform type activities are becoming more prevalent.

Duration. Garet et al. (2001) found that more time, measured by duration, and the frequency of a professional development experience had no direct link to changes in classroom practice, but it did have effects on the core features of professional development that do directly impact change. The follow-up study (Desimone, et al., 2002) found no effects on duration. Blank and de las Alas (2009) found duration to be a key feature that linked to teachers self-reporting an increase in knowledge and skills. Consistent with the Garet et al. (2001) study, they concluded that there were no effects on actual change in classroom practice.

However, Shields, Marsh, and Adelman (1998) reported that intensity and duration promotes teacher change, and the major meta-analysis study and Yoon et al.

(2007) reported that of the studies they examined, those that consisted of more than 14 hours of professional development resulted in a positive or significant effect on student achievement. The results of this study concur with the model studies (Garet et al., 2001; Desimone et al., 2002), and Blank and de las Alas (2009) as duration showed no impact on self-reported classroom use of the six instructional shifts. All of these conflicting results would suggest that duration does not independently impact classroom practice and that other high-quality features need to be present. Further studies focusing only on the feature of duration could be needed.

Collective participation. The literature on effective professional development (Archibald et al., 2011; Blank and de las Alas, 2009; Cohen and Hill, 2001; Dismone et al., 2002; Elmore, 2002; Jackson & Bruegmann, 2009; Jaquith, Mindich, Wei, & Darling-Hammond, 2010; Harwell, D'Amico, Stein, & Gatti, 2000; Hill, Stumbo, Paliokas, Hanson, & McWalters, 2010; Gallimore, Ermeling, Saunders, & Goldenberg, 2009; Wilson, 2009) strongly supports that collaborative participation by teams of teachers is an effective way to actively engage teachers in the learning process. Wilson (2009) stressed that effective professional development includes "teams of teachers from the same school [that] participate and learn together, enabling their support of each other in using what they have learned" (p. 6). This study did not find the same impact for collective participation. While 40.5% reported that their experience involved their grade-level team from the same school, the data analysis showed no impact on the self-reported use of the instructional shifts.

Active learning. The recent meta-analyses of professional development studies (Achibald et al., 2011; Blank and de las Alas, 2009; Cohen and Hill, 2001; Dismone et

al., 2002; 2000; Wilson, 2009) found that teachers need to be actively involved in their learning. Wilson (2009) specifically stated that for professional development to be effective, educators must be actively engaged, "rather than just listening to a lecture or watching a demonstration" (p. 6).

Nearly 20% (19.9%) of the participants in this study reported that they listened to a lecture or watched a demonstration; however, upon closer examination of the data, only two respondents participated in professional development that was only listening to a lecture. This means that nearly 98% of the participants were engaged in active learning at some point during the professional development experience. Therefore, there may not have been enough variability in the responses for the correlation and regression analysis.

Limitations

While much of this study's results are consistent with larger studies that were identified as high quality in the review of the literature, there are a number of limitations. First, the findings in this study are restricted to one small school system in which 19% of 472 teachers participated. While this limits the generalizability of the study, this study could be easily reproduced in other school systems to increase the scope and strength of the findings. Second, correlation does not determine causation. While the study results indicate that professional development with the features of alignment and content focus are correlated with increased teacher reports of the use of the six ELA Common Core instructional shifts, this does not mean that these features from the one identified experience are the actual cause of the classroom reports of use of the instructional shifts.

There could have been many other factors that influenced the teacher reports of classroom use. For example, over half (57.4%) of the respondents teach in schools with

specialized professional development programs; that means that they have participated in many professional learning experiences over the past two years. Possibly, their self-reported use of the shifts is likely to be due to the sum of these experiences more than their most recent professional development experience. To help negate the effects of previous professional development, the participants were directed by the survey item to indicate how often the instructional shift occurs in their classroom based specifically on the most recent professional development activity. The cognitive field-testing of the survey showed that the study population was likely to understand the survey item.

It should be noted that the participants in this study reported that 52% of the professional development experiences had no emphasis on the content of complex text, yet 75% reported using complex text often or daily. Teaching students to write from sources was reported to occur less often than the other shifts (41% of participants reporting often or daily use), and 33% reported that this was the least emphasized content. Teaching students to read and write across content areas was reported as the most emphasized professional development content (46% reporting major emphasis), and 84% of the participants reported using this instructional shift often or daily. This could be evidence that some of the respondents reported on current use of the shifts without considering them only in the context of their use due to their most recent professional development experience. The study would have been stronger if the teachers were asked to describe all of the professional development they had participated in for the ELA Common Core, but the length of the survey would have diminished the survey return rate.

Another factor that could have influenced the teacher reports of the six shifts is the school system's expectation of their daily use. The teachers could have reported their

use of the shifts to be higher than what actually occurred. This does not appear to be the case as there was variability in the self-reports with a near equal distribution of claims in the "sometimes," "often," and "daily" selections. While there is always a danger of teachers reporting what they believe to be the favored response (McMillan, 2008), Desimone, et al., (2002) reference research that shows, "when not linked to rewards or sanction, teacher descriptions of practice have generally been consistent with the descriptions of practice provided by other sources such as classroom observation and analysis of instructional artifacts" (p. 104).

Triangulating the data could have been a way to strengthen the accuracy of the self-reports. For example, lesson plans could have been collected and analyzed for the presence of the six instructional shifts. However, due to the timeline required by the parameters of the study, the researcher's position in the school system, and the anonymous response required by the school system, lesson plan analysis was not possible. Also, to strengthen the self-reports, students could have completed a survey indicating their teachers' use of the shifts, but this was not feasible in this particular study. The school system would not grant permission for students to participate in the study due to parental permissions and use of instructional time. Additionally, student responses would need to be matched to teacher responses, inhibiting anonymous response.

The survey instrument poses some limitations to the study. While this survey is modified from a national survey (Garet et. al., 1999) that demonstrated consistency in results through a follow-up longitudinal study (Desimone et. al., 2002), the survey is not an exact fit, and modifications were made for this study. Unlike the *Teacher Activity*

Survey, the teachers were not asked about a change in their practice because all of the shifts are new. These practices are nationally known as instructional shifts, indicating change in practice. In reality, some teachers could have used these practices prior to the introduction of the Common Core. Furthermore, teacher reports of change may not have been accurate. For example, using a shift one or two times could be considered significant change by one teacher and moderate change by another teacher.

Another limitation of this study is that it does not measure actual change in teacher practice; it examines assumed change. While the instructional shifts for the classroom use of the ELA Common Core as assumed to be a change of classroom practice, this study does not measure, nor ask teachers to self-report on their use of the shifts prior to the professional development experience.

A study over a longer period of time could have more accurately measured teacher self-reported change in practice. Teachers could have been asked to report on their use of the shifts prior to the professional development experience and then again after the professional development experience. This would have required teachers in the school system to commit more time to the study and to be selected prior to any professional development occurring. Again, due to the permissions given for this particular study, this more in-depth gathering of information was not possible.

Lastly, the clarity of the survey items on the use of the ELA Common Core instructional shifts could be questioned, particularly to those outside of the school system. The cognitive field-testing revealed that the teachers did understand the descriptions of the shifts. These are also the same descriptions of the shifts that have been used with teachers for the past year. According to the field-testing, the teachers in the study also

understand the frequency of use descriptors as they teach 90 minutes of ELA per day, and they were asked to report on their use of the shifts that have occurred since their participation in the identified professional development experience. Still, an exact number would have been a more accurate measure of how often the teachers were using the shifts. For instance, the survey could have asked, "How many times have you used this shift in the last week, or last 30 days?" Since the teachers were asked to report on their most recent professional development, the time span on the survey may not have been appropriate. Therefore, the time span was not specifically stated but assumed to be since the professional development activity occurred.

The greatest strengths of the study are that the correlations are strong, clear, and mirror the results of the other studies (Garet, et. al., 2001; Desimone, et. al. 2002). The use of many composite indexes provides more validity and reliability than using single survey items (Mayer, 1999). As discussed in chapter 4, many of the participant responses demonstrate consistency among the survey items. For example, the participants accurately reported the sponsors of the professional development activities, and the collective participation results matched with the most reported professional development experience.

Implications

Implications for Practice

Teachers' perceived need for professional development and their perceptions of the quality of the experience influence their willingness to apply their learning in the classroom (Killion, 2012). This study supports the belief of experts in the field of

educational professional development as alignment and coherence can be viewed as perceived need and quality.

One purpose for this study was to be a beginning guide for the design of future professional development plans in order to increase the use of the six ELA instructional shifts, specifically for the school system studied. The results of the study would indicate that the most important feature would be to ensure that the content of the professional development matches the exact shift that the school system needs to increase in classroom use. For example, if a school principal desired an increased classroom use of teachers engaging students in rich and rigorous evidence-based conversations and writing about text, then the content of the teachers' professional development should focus on teachers engaging in rich and rigorous evidence-based conversations and writing about text.

The other important feature of professional development would be to align the professional development with the goals of the schools and school system. This means that since the goals of the school system (WCPS) are currently to implement the Common Core State Standards, any professional development designed around the Common Core is more likely to influence classroom change than other professional development topics.

This study serves as a reminder of the critical need for educational leaders to evaluate professional development experiences. In practice, little teacher professional development is formally or adequately evaluated (Guskey, 2000). The learning activities should be designed after determining the teacher outcomes of the professional development experience. Prior to providing the professional development, the designers

of the experience should determine how to measure change. Zepeda (2008) asserted, "The objectives of evaluation in education are to measure change and to assess results" (p.37). Therefore, the practice to be changed should be measured before the professional development and after. The evaluation should then be used to plan the follow-up and next professional development experience. This continual cycle of plan, teach, and evaluate is what supports teachers as they make change in practice.

Implications for Future Studies

As mentioned in the beginning of the chapter, this study could be used as one formative evaluation data point to determine the effectiveness of the total Common Core ELA professional development experiences that have already occurred in WCPS. As reported by those who participated in the survey, are the teachers using the six instructional shifts in the classroom? The following are the percentages of survey respondents who reported not using the shifts in their classrooms: 8% for text balance, 6% for students reading and writing in the content areas, 5% for use of complex text, 6% for evidence-based discussions and writing, 12% for writing from sources, 5% for use of academic vocabulary. These data imply that of majority teachers in the school system are using the shifts in their classrooms at least some of the time. A follow-up study could ask teachers to describe which professional development experiences were most influential in their use of the shifts and to then analyze these experiences for the presence of the features of professional development.

Porter et al. (2010), in examining state plans for Common Core professional development stated that "the most commonly planned ways for providing professional development… include: conferences and workshops, online modules, and webinars," (p.

10) supported by "educators teacher networks, statewide and regional academies and regional education service centers" (Porter et al., 2010 p. 10). These most common professional development experiences should be evaluated for their effectiveness in impacting change in classroom practice, and eventually once the PARCC exams are available, impacting student achievement. MSDE, for example, could begin to assess the effectiveness of their professional development by requiring teachers to report their use of the shifts in the last month (number of time you used the shift in the past month) prior to the professional development and then to self-report 30 days after. Once the PARCC students results are available, the student data could be sorted based on all of the professional development the teachers attended the prior year. Correlations may emerge among teacher participation and student achievement.

Conclusion

This study, based on the of work Garet et al. (2001) and Desimone et. al. (2002) on what makes professional development effective, along with their national survey, sought to determine if there is a relationship between teacher participation in the professional development with the features of high-quality professional development and the self-reported use of the six ELA Common Core instructional shifts . The results of this preliminary study of one school system in Maryland align with results found in larger studies of professional development for other content. The correlation and regression analysis of the data show that there is a relationship between the teachers' self-reported use of all of the six instructional shifts and the professional development features of alignment and content focus. When teachers participate in professional develop that is aligned with goals (theirs, the school, the school system), aligned with assessments, and

focused on improving and deepening their content knowledge, they are more likely to report increased occurrences of the classroom use of the instructional shifts. This study is important because it can serve as a beginning guide for the design of future professional development in this school system that can then lead to further studies to determine more specific features of professional development needed to impact change.

Appendix A

Permission to use the *Teacher Activity Survey*

8/9/13 RE: University of Maryland doctorate student seeking information for dissertation

RE: University of Maryland doctorate student seeking information for dissertation

Garet, Mike [MGaret@air.org]
Sent: Tuesday, August 06, 2013 10:34 AM
To: Tresler, Tiffany
Cc: Yoon, Kwang_Suk [kyoon@air.org]

Hi,

I'll look forward to hearing more about your study.

I'm cc'ing Kwang Yoon, who can provide copies of the surveys and the technical appendices. You are welcome to use the surveys in your dissertation.

Mike

From: Tresler, Tiffany [mailto:TreslTif@wcps.k12.md.us]
Sent: Tuesday, August 06, 2013 10:27 AM
To: Garet, Mike
Subject: University of Maryland doctorate student seeking information for dissertation

From: Tresler, Tiffany
Sent: Thursday, July 11, 2013 11:51 AM
To: mgaret@air.org
Subject: University of Maryland doctorate student seeking information for dissertation

Dear Dr. Garet:

I am a University of Maryland doctorate student in Educational Leadership and I am preparing to defend my dissertation proposal at the end of August. The purpose of my study will be to determine which features of professional development impact the implementation of the English Language Arts Common Core State Standards as determined by cross-sectional teacher surveys regarding their Common Core professional development experiences. I plan to examine the professional development features from your study with Porter, Yoon, Desimone, and Birman in What Makes PD Effective? Results from a National Teacher Sample of Teachers (2001) and model my study from your framework. I would like to seek permission to use and modify sections of the Teacher Activity Survey but I am having difficulty determining the original author or source of the survey. I know that it is from the evaluation of the Eisenhower Program. Also, due to ERIC not providing full-text of some articles at this time, I can not locate a full-text version of Designing Effective Professional Development: Lessons from the Eisenhower Program (1999) with the technical appendices.

I would greatly appreciate any information or direction that you can provide.

Thank you for your time.

Sincerely,

Tiffany Tresler

tresltif@wcps.k12.md.us

****

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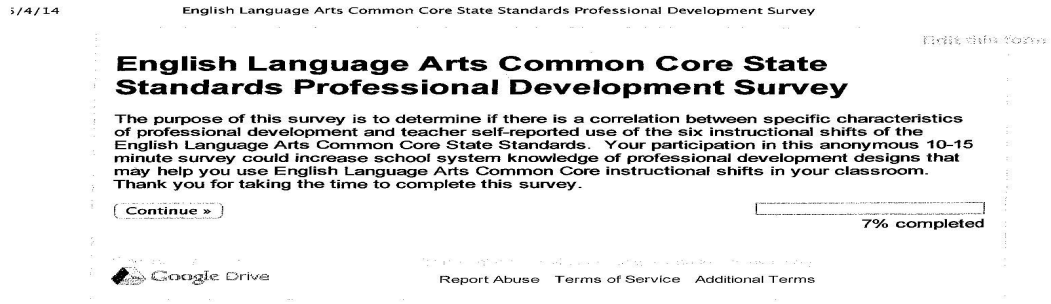
Appendix B

Survey

This survey was provided to the participants online through Google Drive. Each heading of "English Language Arts Common Core State Standards Professional Development Survey" indicates a new screen for the survey participants. The item numbers were added to this appendix version of the survey for reader reference.



5/4/14 English Language Arts Common Core State Standards Professional Development Survey

English Language Arts Common Core State Standards Professional Development Survey

The purpose of this survey is to determine if there is a correlation between specific characteristics of professional development and teacher self-reported use of the six instructional shifts of the English Language Arts Common Core State Standards. Your participation in this anonymous 10-15 minute survey could increase school system knowledge of professional development designs that may help you use English Language Arts Common Core instructional shifts in your classroom. Thank you for taking the time to complete this survey.

Continue »

7% completed

Google Drive Report Abuse Terms of Service Additional Terms

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

1. **In the box below, please write the title and/or a brief description of your most recent English Language Arts professional development experience. English Language Arts includes reading, writing, speaking and listening, and language standards. Please choose only your most recent professional development experience.**

Some examples of professional development include, but are not limited to, the following: collaborative planning, committees, researching and locating materials and resources, designing student assessments, workshops, conferences, study groups, accessing online modules and webinars, Educator Effectiveness Academies, curriculum mapping, and observing other teachers.

« Back Continue »

15% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

Your Most Recent Professional Development Experience

The following questions ask you to describe only your most recent English Language Arts professional development activity. In answering the questions about the activity, please include all components of the activity, even if they occurred at different times of the year. (For example, if the activity was a summer institute or workshop with follow-up during the school year, include both the summer institute and the follow-up in your answers.)

2. Which of the following best describes the activity?
Select all that apply.

- ☐ Participation in an in-district workshop or institute
- ☐ Attendance at a college or MSDE course
- ☐ Attendance at an out-of-district workshop or institute
- ☐ Participation in a teacher collaborative or network
- ☐ Attendance at an out-of-district conference
- ☐ Working in an internship or immersion activity
- ☐ Working with a mentor, coach, lead teacher, or observer
- ☐ Use of a teacher resource center
- ☐ Participation in a teacher committee or task force
- ☐ Participation in a teacher study group
- ☐ Other: _____

3. Who led or sponsored the professional development experience?
Check all that apply.

- ☐ Maryland State Department of Education
- ☐ WCPS English Language Arts department
- ☐ School administration or lead teacher
- ☐ Chesapeake Coalition of Essential Schools (CES)
- ☐ Unsure
- ☐ Other: _____

« Back | Continue »

23% completed

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English Language Arts Common Core State Standards Professional Development Survey

4. Over what period of time was the activity spread, including the main activity and any formal preliminary or follow-up sessions?

Select one response.

- ◯ Less than one day
- ◯ One day
- ◯ Two-four days
- ◯ A week
- ◯ A month
- ◯ More than a month

5. Is the activity still continuing?

If you are not sure if the activity is still continuing or if you do not know, please select, "no."

- ◯ Yes
- ◯ No

« Back | Continue »

30% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

6. **How many hours do you expect to be engaged in this activity between now and the end of the school year?**

Please do your best to approximate the number of hours. If you are unsure, please type "unsure" in the box.

« Back Continue »

38% completed

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English Language Arts Common Core State Standards Professional Development Survey

7. **Between the start of the activity and the present date, including the main activity and any preliminary activities or formal follow-up sessions, how many overall hours were you engaged in this activity?**

« Back | Continue »

46% completed

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English Language Arts Common Core State Standards Professional Development Survey

8. **During the professional development activity, how much emphasis was given to using a balance of informational and literary text in the classroom?**

0 1 2

No emphasis ○ ○ ○ Major emphasis

9. **During the professional development activity, how much emphasis was given to teaching students through the reading of content area texts and/or students writing across content areas?**
Science and social studies are considered content areas.

0 1 2

No emphasis ○ ○ ○ Major emphasis

10. **During the professional development activity, how much emphasis was given to understanding text staircase of complexity?**
Staircase of complexity is described by students reading grade appropriate text, teachers creating more time in the curriculum for close reading, and teachers providing appropriate supports to make grade-level text accessible to students reading below grade-level.

0 1 2

No emphasis ○ ○ ○ Major emphasis

11. **During the professional development activity, how much emphasis was given to understanding how to engage students in rigorous evidence-based conversations and writing about text?**

0 1 2

No emphasis ○ ○ ○ Major emphasis

12. **During the professional development activity, how much emphasis was given to students writing from sources?**
Writing from sources is described as student writing that emphasizes use of evidence from sources to inform or make an argument.

0 1 2

No emphaisis ○ ○ ○ Major emphasis

13. **During the professional development activity, how much emphasis was given to building students' academic vocabulary?**

0 1 2

No emphasis ○ ○ ○ Major emphasis

« Back Continue »

53% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

4.Which of the following characterize the participants in this activity?
Check all that apply.

- ☐ Teachers as individuals
- ☐ Teachers as representatives of their departments, grade-level, or school
- ☐ All teachers in a grade-level team
- ☐ All teachers in a school or set of schools (such as all CES schools)
- ☐ Other:

« Back | Continue »

61% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

15. Which of the following did you engage in during the activity?

Check all that apply.

- ☐ Listened to a lecture or a presentation
- ☐ Observed a demonstration of a lesson or unit
- ☐ Led or participated in a whole group or small group discussion
- ☐ Gave a lecture or a presentation
- ☐ Conducted a demonstration of a lesson, unit, or skill
- ☐ Planned (developed a long-term unit, lesson, learning experience, or other types of instruction)
- ☐ Wrote a paper, report, or plan
- ☐ Practiced using student materials
- ☐ Selected student resources
- ☐ Reviewed student work
- ☐ Scored student assessments
- ☐ Developed student activities
- ☐ Analyzed standardized student data (MAP or MSA data)
- ☐ Composed a piece of writing
- ☐ Used data to plan student groupings
- ☐ Provided or received feedback
- ☐ Other:

« Back | Continue »

69% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

16. **Have you discussed what you learned with other teachers in your school or in your grade-level who did not attend the activity?**

- ◯ Yes
- ◯ No

17. **Have you discussed or shared what you learned with administrators (principal, assistant principal, supervisor, director)**

- ◯ Yes
- ◯ No

18. **Outside of formal meetings held as part of the activity, have you communicated with participants of the activity who teach in another school?**

- ◯ Yes
- ◯ No

« Back | Continue »

76% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

19. **To what extent was the professional development activity consistent with your own goals for your professional development?**

1 2 3 4 5

Not at all ○ ○ ○ ○ ○ Great extent

20. **To what extent was the professional development activity consistent with your school's or your grade-level's plan to change classroom practice?**

1 2 3 4 5

Not at all ○ ○ ○ ○ ○ Great extent

21. **To what extent was the professional development activity based explicitly on what you had learned in earlier professional development experiences?**

1 2 3 4 5

Not at all ○ ○ ○ ○ ○ Great extent

22. **To what extent were there follow-up activities that built upon what you learned in this professional development activity?**

1 2 3 4 5

Not at all ○ ○ ○ ○ ○ Great extent

23. **To what extent was the professional development activity designed to support state or district standards/curriculum frameworks?**

1 2 3 4 5

Not at all ○ ○ ○ ○ ○ Great extent

24. **To what extent was the professional development activity designed to support state or district assessments?**

1 2 3 4 5

Not at all ○ ○ ○ ○ ○ Great extent

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

25. **How often do the following instructional shifts occur in your classroom as a result of the professional development activity?**

	Not occurring	Occurring sometimes	Occurring often	Occurring daily
Balancing informational and literary text read by students	○	○	○	○
Students learning through reading content specific texts and/or writing in the content areas	○	○	○	○
Use of complex and/or grade-level text for instruction	○	○	○	○
Students engaged in evidence-based discussion and/or writing about a text	○	○	○	○
Students writing by using evidence from sources to inform or make an argument	○	○	○	○
Students learning about and using academic vocabulary	○	○	○	○

« Back Continue »

92% completed

Edit this form

English Language Arts Common Core State Standards Professional Development Survey

Teacher Demographics

All survey responses will be anonymous. Collected data will not be reported at the individual school level.

20. How many years of teaching experience do you have?

	First year teaching	Two to four years	Five to ten years	Eleven to twenty years	More than twenty years
In total	○	○	○	○	○
In your assigned grade-level	○	○	○	○	○
In WCPS	○	○	○	○	○
In your current school	○	○	○	○	○

21. Please indicate your gender.

- ○ Female
- ○ Male

22. Please indicate your current assigned grade-level.

- ☐ Kindergarten
- ☐ First grade
- ☐ Second grade
- ☐ Third grade
- ☐ Fourth grade
- ☐ Fifth grade

23. Does your school participate in any of the following programs?

Check all that apply.

- ☐ Professional Development School (PDS) that is partnered with Frostburg State University
- ☐ Coalition of Essential Schools (CES)
- ☐ Teacher Incentive Fund Grant (TIF)
- ☐ Magnet School
- ☐ Title I
- ☐ Arete School
- ☐ Other: _____

Appendix C

Correlation Table

Correlations

		Type	Time duration	Hours	Collective	Active	Total active	Discuss	Alignment	Content focus	Text balance	Content reading	Complex text	Evidence based	Write from source	Vocabulary	Total shifts
Type	r	1	-.353**	-.242*	.417**	.392**	-.010	-.482**	.248*	.227*	.246*	.218*	.212	.153	.141	.152	.233*
	Sig.		.001	.039	.000	.000	.930	.000	.021	.036	.025	.047	.051	.169	.201	.168	.032
	N	86	86	73	86	84	83	86	86	86	83	84	85	82	84	84	85
Time duration	r	-.353**	1	.507**	-.219*	-.177	.328**	.405**	.044	.082	-.100	-.109	-.119	.006	.142	-.173	-.068
	Sig.	.001		.000	.042	.106	.002	.000	.688	.451	.365	.322	.276	.957	.194	.113	.536
	N	86	87	73	87	85	84	87	87	87	84	85	86	83	85	85	86
Hours	r	-.242*	.507**	1	-.240*	-.017	.381**	.213	.158	.216	.073	.035	.039	-.012	.162	.054	.078
	Sig.	.039	.000		.041	.889	.001	.070	.183	.067	.549	.774	.745	.920	.176	.654	.512
	N	73	73	73	73	72	72	73	73	73	70	71	72	70	71	72	72
Collective	r	.417**	-.219*	-.240*	1	.153	-.059	-.099	.140	.059	.147	.031	.119	.057	.088	.077	.108
	Sig.	.000	.042	.041		.163	.596	.363	.195	.585	.182	.777	.276	.607	.423	.482	.324
	N	86	87	73	87	85	84	87	87	87	84	85	86	83	85	85	86
Active	r	.392**	-.177	-.017	.153	1	.298**	-.177	.145	.232*	.038	.104	-.024	.170	.203	.016	.114
	Sig.	.000	.106	.889	.163		.006	.106	.186	.032	.735	.348	.825	.128	.065	.885	.303
	N	84	85	72	85	85	84	85	85	85	82	83	84	81	83	83	84
Total Active	r	-.010	.328**	.381**	-.059	.298**	1	.409**	.326**	.522**	.147	.275*	.192	.261*	.235*	.140	.262*
	Sig.	.930	.002	.001	.596	.006		.000	.002	.000	.190	.012	.082	.019	.034	.208	.017
	N	83	84	72	84	84	84	84	84	84	81	82	83	80	82	82	83
Discuss	r	-.482**	.405**	.213	-.099	-.177	.409**	1	.146	.150	.109	.164	.078	.138	.226*	.151	.179
	Sig.	.000	.000	.070	.363	.106	.000		.177	.165	.328	.133	.478	.215	.037	.167	.099
	N	86	87	73	87	85	84	87	87	87	84	85	86	83	85	85	86
Alignment	r	.248*	.044	.158	.140	.145	.326**	.146	1	.621**	.443**	.461**	.489**	.471**	.380**	.398**	.565**
	Sig.	.021	.688	.183	.195	.186	.002	.177		.000	.000	.000	.000	.000	.000	.000	.000
	N	86	87	73	87	85	84	87	87	87	84	85	86	83	85	85	86

Content focus	r	.227*	.082	.216	.059	.232*	.522**	.150	.621**	1	.411**	.528**	.330**	.517**	.440**	.327**	.540**
	Sig.	.036	.451	.067	.585	.032	.000	.165	.000		.000	.000	.002	.000	.000	.002	.000
	N	86	87	73	87	85	84	87	87	87	84	85	86	83	85	85	86
Text balance	r	.246*	-.100	.073	.147	.038	.147	.108	.443**	.411**	1	.709**	.617**	.377**	.360**	.536**	.766**
	Sig.	.025	.365	.549	.182	.735	.190	.328	.000	.000		.000	.000	.001	.001	.000	.000
	N	83	84	70	84	82	81	84	84	84	84	83	84	81	83	83	84
Content reading	r	.219*	-.109	.035	.031	.104	.275*	.164	.461**	.528**	.709**	1	.663**	.627**	.525**	.653**	.877**
	Sig.	.047	.322	.774	.777	.348	.012	.133	.000	.000	.000		.000	.000	.000	.000	.000
	N	84	85	71	85	83	82	85	85	85	83	85	85	82	84	84	85
Complex text	r	.212	-.119	.039	.119	-.024	.192	.078	.489**	.330**	.617**	.663**	1	.558**	.402**	.649**	.818**
	Sig.	.051	.276	.745	.276	.825	.082	.478	.000	.002	.000	.000		.000	.000	.000	.000
	N	85	86	72	86	84	83	86	86	86	84	85	86	83	85	85	86
Evidence based	r	.153	.006	-.012	.057	.170	.261*	.138	.471**	.517**	.377**	.627**	.558**	1	.575**	.571**	.784**
	Sig.	.169	.957	.920	.607	.128	.019	.215	.000	.000	.001	.000	.000		.000	.000	.000
	N	82	83	70	83	81	80	83	83	83	81	82	83	83	82	82	83
Write from source	r	.141	.142	.162	.088	.203	.235*	.226*	.380**	.440**	.360**	.525**	.402**	.575**	1	.465**	.708**
	Sig.	.201	.194	.176	.423	.065	.034	.037	.000	.000	.001	.000	.000	.000		.000	.000
	N	84	85	71	85	83	82	85	85	85	83	84	85	82	85	84	85
Vocabulary	r	.152	-.173	.054	.077	.016	.140	.151	.398**	.327**	.536**	.653**	.649**	.571**	.465**	1	.815**
	Sig.	.168	.113	.654	.482	.885	.208	.167	.000	.002	.000	.000	.000	.000	.000		.000
	N	84	85	72	85	83	82	85	85	85	83	84	85	82	84	85	85
Total shifts	r	.233*	-.068	.078	.108	.114	.262*	.179	.565**	.540**	.766**	.877**	.818**	.784**	.708**	.815**	1
	Sig.	.032	.536	.512	.324	.303	.017	.099	.000	.000	.000	.000	.000	.000	.000	.000	
	N	85	86	72	86	84	83	86	86	86	84	85	86	83	85	85	86

Note. Sig. = Two-tailed significance level

*. Correlation is significant at the 0.05 level (Two-tailed).

**. Correlation is significant at the 0.01 level (Two-tailed).

Appendix D

Regression Tables

Text Balance

Table 23

Text Balance Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.546[a]	.298	.193	.7768

a. Predictors: (Constant), alignment, time duration, active, collective, discuss, hours, content focus, total active, type

Table 24

Text Balance ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.364	9	1.707	2.829	.008[b]
	Residual	36.208	60	.603		
	Total	51.572	69			

a. Dependent Variable: text balance
b. Predictors: (Constant), alignment, time duration, active, collective, discuss, hours, content focus, total active

Table 25

Text Balance Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.641	.581		1.104	.274
	Type	.491	.320	.240	1.533	.131
	Time duration	-.073	.055	-.183	-1.325	.190
	Hours	.010	.011	.129	.953	.344
	Collective	.024	.121	.024	.194	.847
	Active	-.460	.529	-.111	-.869	.389
	Total active	-.043	.067	-.098	-.631	.531
	Content focus	.410	.264	.241	1.551	.126
	Discuss	.552	.368	.223	1.500	.139
	Alignment	.240	.147	.233	1.637	.107

a. Dependent variable: text balance

Content Reading

Table 26

Content Reading Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.614[a]	.377	.285	.6894

a. Predictors: (Constant), alignment, time duration, active, collective, discuss, hours, content focus, total active

Table 27

Content Reading ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.517	9	1.946	4.095	.000[b]
	Residual	28.993	61	.475		
	Total	46.510	70			

a. Dependent Variable: content reading
b. Predictors: (Constant), alignment, time duration, active, collective, discuss, hours, content focus, total active

Table 28

Content Reading Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.818	.512		1.598	.115
	Type	.395	.282	.205	1.401	.166
	Time duration	-.080	.049	-.212	-1.643	.106
	Hours	3.887E-005	.009	.001	.004	.997
	Collective	-.105	.107	-.113	-.982	.330
	Active	-.268	.466	-.069	-.575	.568
	Total active	.004	.059	.011	.073	.942
	Content focus	.594	.233	.371	2.553	.013
	Discuss	.559	.324	.240	1.724	.090
	Alignment	.171	.129	.176	1.324	.190

a. Dependent Variable: content reading

Complex Text

Table 29

Complex Text Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.556[a]	.309	.208	.7642

a. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 30

Complex Text ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.176	9	1.797	3.078	.004[b]
	Residual	36.205	62	.584		
	Total	52.381	71			

a. Dependent Variable: Complex text
b. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 31

Complex Text Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.907	.563		1.609	.113
	Type	.332	.310	.164	1.071	.288
	Time duration	-.088	.054	-.220	-1.634	.107
	Hours	.004	.010	.050	.380	.705
	Collective	.004	.118	.004	.036	.972
	Active	-.894	.513	-.217	-1.742	.086
	Total active	.060	.065	.141	.924	.359
	Content focus	.006	.256	.004	.025	.980
	Discuss	.190	.357	.077	.532	.597
	Alignment	.430	.142	.421	3.025	.004

a. Dependent Variable: Complex text

Evidence Based

Table 32

Evidence Based Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.577[a]	.333	.233	.7720

a. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 33

Evidence Based ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.834	9	1.982	3.325	.002[b]
	Residual	35.756	60	.596		
	Total	53.590	69			

a. Dependent Variable: Evidence based
b. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 34

Evidence Based Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.003	.577		.005	.996
	Type	.015	.318	.007	.047	.963
	Time duration	.010	.055	.025	.183	.856
	Hours	-.013	.011	-.162	-1.229	.224
	Collective	-.041	.121	-.041	-.340	.735
	Active	.320	.526	.076	.609	.545
	Total active	-.012	.067	-.028	-.182	.856
	Content focus	.657	.263	.379	2.503	.015
	Discuss	.234	.366	.093	.641	.524
	Alignment	.261	.146	.249	1.789	.079

a. Dependent Variable: Evidence based

Write from Source

Table 35

Write from Source Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.544[a]	.296	.192	.7634

a. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 36

Write from Source ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.940	9	1.660	2.848	.007[b]
	Residual	35.550	61	.583		
	Total	50.490	70			

a. Dependent Variable: Write from source
b. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 37

Write from Source Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.567	.567		-1.001	.321
	Type	.316	.312	.157	1.011	.316
	Time duration	.044	.054	.112	.816	.418
	Hours	.006	.010	.081	.606	.547
	Collective	.018	.118	.019	.155	.877
	Active	.745	.516	.183	1.442	.154
	Total Active	-.092	.066	-.216	-1.395	.168
	Content focus	.552	.258	.330	2.141	.036
	Discuss	.719	.359	.296	2.002	.050
	Alignment	.117	.143	.116	.820	.416

a. Dependent Variable: Write from source

Vocabulary

Table 38

Vocabulary Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.517[a]	.267	.161	.7535

a. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 39

Vocabulary ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.832	9	1.426	2.512	.016[b]
	Residual	35.197	62	.568		
	Total	48.029	71			

a. Dependent Variable: Vocabulary
b. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 40

Vocabulary Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.949	.555		1.709	.092
	TypeTrad0Type1	.304	.306	.156	.992	.325
	Time duration	-.127	.053	-.332	-2.394	.020
	Hours	.010	.010	.137	1.012	.315
	Collective	-.030	.116	-.031	-.255	.800
	Active	-.426	.506	-.108	-.841	.404
	Total active	-.014	.064	-.034	-.219	.828
	Content focus	.212	.253	.131	.841	.404
	Discuss	.625	.352	.266	1.776	.081
	Alignment	.257	.140	.263	1.832	.072

a. Dependent Variable: Vocabulary

Total Shifts

Table 41

Total Shifts Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.652[a]	.426	.342	.54929

a. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 42

Total Shifts ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.857	9	1.540	5.103	.000[b]
	Residual	18.707	62	.302		
	Total	32.564	71			

a. Dependent Variable: Total shifts
b. Predictors: (Constant), Alignment, Time duration, Active, Collective, Discuss, Hours, Content focus, Total active, Type

Table 43

Total Shifts Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.400	.405		.987	.327
	Type	.294	.223	.184	1.319	.192
	Time duration	-.050	.039	-.160	-1.302	.198
	Hours	.003	.007	.050	.414	.680
	Collective	-.022	.085	-.029	-.265	.792
	Active	-.127	.369	-.039	-.343	.733
	Total active	-.019	.047	-.056	-.407	.686
	Content focus	.406	.184	.305	2.207	.031
	Discuss	.470	.256	.242	1.832	.072
	Alignment	.259	.102	.322	2.536	.014

a. Dependent Variable: Total shifts

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