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A Study of the Level of Integration of Common Core State Standards in West Virginia Teacher Preparation Programs

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**A STUDY OF THE LEVEL OF INTEGRATION OF COMMON CORE STATE
STANDARDS IN WEST VIRGINIA TEACHER PREPARATION PROGRAMS**

A dissertation submitted to
the Graduate College of Marshall University
In partial fulfillment of
the requirements for the degree of
Doctor of Education

in
Curriculum and Instruction
by

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Approved by

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Marshall University
May 2015

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DEDICATIONS

This work is dedicated to my daughter, Kathryn. Her encouragement and sacrifice have helped bring us through this journey together. Her very existence gives me such happiness. My hope is that she will always have a passion for learning.

I also dedicate this work to my father, Ray. Even in his death, he inspired me to finish this study. Although he never completed high school, his expectation for his children to acquire as much education as possible fostered my passion for lifelong learning. His presence is with me always.

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ABSTRACT

This study examined the level of integration of the Common Core State Standards (CCSS) within the population of 164 teacher preparation faculty members in 18 initial teacher preparation programs in West Virginia. A three-part researcher-developed survey was mailed to each dean/director for distribution to the initial teacher professional education faculty. Deans/directors were also given the option of participating in a follow-up interview and were asked a series of questions based on a researcher-developed interview protocol.

In general, initial teacher professional education faculty members described their level of integration of CCSS as between “some” and “significant” integration. Statistically significant differences were found for 18 of the 22 competencies and for the total level of integration when observed means were compared to means from a hypothetical normal distribution. Training was reported as the most frequent barrier/challenge by faculty members and deans/directors. Faculty members also reported training as the most needed support/resource for effective CCSS integration. Structural/programmatic changes within preparation programs were reported to have occurred in content and curriculum of courses by faculty members and deans/directors.

Findings from this study may be useful to the West Virginia Department of Education and to higher education institutions in the program-approval process for initial teacher preparation programs. The study may also provide guidance for these higher education institutions and the West Virginia Department of Education concerning the types of ongoing professional development that should be offered for initial teacher professional education faculty in order to effectively integrate the CCSS.

CHAPTER 1: INTRODUCTION

The Common Core State Standards (CCSS) evolved from discussions between the National Governors Association Center for Best Practices and the Council of Chief State School Officers (CCSSO). These discussions focused on the curriculum standards to produce a college-and-career ready student upon graduation from high school. The CCSS provided a map for teachers indicating what students should know and be able to do at each grade level (Longanecker, 2011). The discussion began in 2009 and by 2013, 45 states and the District of Columbia had adopted the resulting English/language arts and mathematics standards. Minnesota adopted the English/language arts standards only (Lu, 2013). Each of the adopting states also agreed to participate in a standards-based assessment reflecting the CCSS. Participation in this assessment initiative was to begin by the 2014-2015 school year (Lu, 2013). West Virginia began its transition to the CCSS with kindergarten teachers in 2011 with full implementation across all grade levels by 2013 (West Virginia Department of Education, 2013b).

The CCSS were characterized as a “commendable product” (Finn & Petrilli, 2010, p.2). Viewed as a major vehicle to raise academic standards, the CCSS provided a roadmap for states on what research revealed as the most necessary knowledge and skills for students to succeed in college or in a career (Finn & Petrilli, 2010). Integration of the new math and English/language arts standards challenged many states. The major integration challenges included providing professional development for teachers, preparing all school districts for the CCSS assessments, and developing or revising state policies on teaching standards and teacher certification requirements (Center on

Education Policy, 2013; Finn & Petrilli, 2010; Lu, 2013; Walsh & Riddell, 2013).

Twenty-five states implemented the standards for the first time in 2013-2014.

The role of higher education in preparing teachers to know the standards and to effectively teach them continues to be crucial to the success of the CCSS. In 2013, more than 1,400 teacher preparation programs existed in the United States (McShane, 2013). Of these programs, only about one-third of the high school teacher preparation programs and less than 1 in 9 elementary teacher preparation programs prepared teacher candidates with the content and skills necessary to teach the CCSS (Young, 2013a).

The lack of movement in aligning higher education teacher preparation programs with the CCSS can be partially attributed to differences in the control of state level educational policy. Some states have a state level postsecondary governance body that mandated change while other states allowed institutions of higher education to make individual program decisions (Center on Education Policy, 2013). For example, although Colorado required all teacher preparation programs to align their curricular content to the CCSS by the end of 2012, Delaware afforded individual campuses the right to make decisions concerning the adoption and use of the CCSS (Center on Education Policy, 2013). Higher education faculty in New Mexico participated in professional development on the CCSS and changed its teacher preparation courses to give teacher candidates exposure to the standards and related instructional practices (Riley, 2012). In order to prepare teacher candidates to effectively teach the CCSS, higher education institutions must integrate the standards into their teacher preparation programs (Finn & Petrilli, 2010; Walsh & Riddell, 2013)

PROBLEM STATEMENT

According to the Center on Education Policy (2012), 21 state education departments believed that aligning the CCSS to the content in teacher preparation programs was a challenge. Further, initial teacher professional education faculty needed considerable training on the CCSS to demonstrate mastery of the instructional strategies needed to train their candidates for the public school classrooms (Association of Public and Land-Grant Universities, 2011). Therefore, fundamental structural and programmatic elements of initial teacher preparation programs should be changed to effectively implement the CCSS.

A review of the current literature suggested the restructuring of admission requirements, content area course requirements, teacher candidate assessments, and field experiences as actions needed by institutions of higher education for CCSS integration. (American Federation of Teachers, Teacher Preparation Task Force, 2012; Longanecker, 2011; Riley, 2012; Walsh & Riddell, 2013). Given the need for teacher preparation programs to be aligned with CCSS and the need to integrate appropriate instructional and assessment competencies into the preparation experience, a comprehensive description of the level of such integration would provide a starting point for program and curricular restructuring. Currently, there is no formal database that provides such an inventory for teacher preparation institutions in West Virginia. Therefore, this study sought to examine the level of integration of the CCSS in initial teacher preparation programs in West Virginia.

RESEARCH QUESTIONS

The following research questions were investigated:

1. What is the level of integration of teacher competencies essential to implementing the CCSS in initial teacher preparation programs, as perceived by initial teacher preparation faculty, in West Virginia institutions of higher education?
2. What are the differences, if any, based on selected demographic variables, in the level of integration of teacher competencies essential to implementing the CCSS in initial teacher preparation programs, as perceived by initial teacher preparation faculty in West Virginia institutions of higher education?
3. What are the major barriers/challenges, as perceived by initial teacher preparation faculty, in integrating CCSS into initial teacher preparation programs in West Virginia institutions of higher education?
4. What are the major supports/resources needed, as perceived by initial teacher preparation faculty, in integrating CCSS into initial teacher preparation programs in West Virginia institutions of higher education?
5. What is the impact, if any, of the integration of the CCSS on structural and programmatic elements of initial teacher preparation programs, as perceived by initial teacher preparation faculty?
6. What is the impact, if any, of the integration of the CCSS on structural and programmatic elements of initial teacher preparation programs, as perceived by deans/directors?

7. What are the major barriers/challenges, as perceived by initial teacher preparation deans/directors, in integrating the CCSS into initial teacher preparation programs in West Virginia's institutions of higher education?

OPERATIONAL DEFINITIONS

The following operational definitions were developed for use in this study:

Level of integration of candidate competencies essential to implementing the CCSS

– the extent to which candidate competencies essential to implementing CCSS are found within the initial teacher preparation program as self-reported using the 7-point descriptive scale (1= Little Integration, 4 = Some Integration, and 7 = Significant Integration) on the survey instrument, *Faculty Survey of Common Core State Standards Integration*, included in Appendix B, Part B of the survey instrument.

Total Higher Education Experience – the total number of years of higher education experience that an individual faculty member self-reported using the descriptors (a = less than 5, b = 6-10, c = 11-15, and d = 16 or more) on the survey instrument, *Faculty Survey of Common Core State Standards Integration*, included in Appendix B, Part A of the survey instrument.

Total Public Education Experience – the total number of years of public education experience that an individual faculty member self-reported using the descriptors (a = less than 5, b = 6-10, c = 11-15, and d = 16 or more) on the survey instrument, *Faculty Survey of Common Core State Standards Integration* included in Appendix B, Part A of the survey instrument.

Type of CCSS Professional Development Experience – the types of professional development related to the CCSS that an individual faculty member has experienced

within the past year. These data were self-reported using the descriptors: (a = State Training, b = Institution Training, c = Institution Departmental Training, d = Personal Reading, e = Conference Attendance, f = Seminar Attendance, and g = Other: Please Specify) on the survey instrument, *Faculty Survey of Common Core State Standards Integration*, included in Appendix B, Part A of the survey instrument.

Faculty perceptions of the level of impact of the CCSS integration on structural and programmatic elements in initial teacher preparation programs – an individual faculty member’s perception of the level of impact of CCSS integration on structural and programmatic elements in initial teacher preparation as self-reported in Part C of the *Faculty Survey of Common Core State Standards Integration* found in Appendix B.

Deans/Directors perceptions of the level of impact of CCSS integration on structural and programmatic elements in initial teacher preparation programs – an individual dean’s/director’s perception of the level of impact of CCSS integration on structural and programmatic elements in initial teacher preparation programs as self-reported during the interview process using the *Teacher Preparation Dean’s/Director’s Interview Protocol* found in Appendix C.

Faculty perceptions of challenges/barriers of integrating the CCSS in initial teacher preparation programs – an individual faculty member’s perception of the factors identified as being challenges/barriers in integrating the CCSS with respect to the structural and programmatic elements within initial teacher preparation programs as self-reported in Part C on the survey instrument, *Faculty Survey of Common Core State Standards Integration*, found in Appendix B, Part C.

Faculty perceptions of needs/supports of integrating the CCSS in initial teacher preparation programs – an individual faculty member’s perception of the factors identified as being supports/needs in integrating the CCSS with respect to the structural and programmatic elements within initial teacher preparation programs as self-reported in Part C on the survey instrument, *Faculty Survey of Common Core State Standards Integration*, found in Appendix B, Part C.

Deans/Directors perceptions of challenges and barriers of integrating the CCSS in initial teacher preparation programs – an individual dean’s/director’s perception of the factors identified as being challenges/barriers in integrating the CCSS with respect to the structural and programmatic elements within initial teacher preparation programs as self-reported using the *Teacher Preparation Dean’s/Director’s Interview Protocol* found in Appendix C.

SIGNIFICANCE OF THE STUDY

Public education teachers in West Virginia are expected to instruct students using the CCSS to prepare all students to be college-and-career ready by graduation from high school. Results of this study can be used to inform the development of structural and programmatic elements of initial teacher preparation programs while integrating the CCSS. Findings may be used to inform initial teacher preparation faculty concerning the teacher competencies associated with the CCSS to improve P-12 learning.

The available literature was limited relative to the integration of CCSS in initial teacher preparation programs. Study findings may be useful to the West Virginia Department of Education and to higher education institutions in the program approval process for initial teacher preparation programs. Further, higher education institutions

and the West Virginia Department of Education may be advised by the study findings concerning what types of ongoing professional development, if any, should be offered for the initial teacher preparation faculty in order to effectively integrate the CCSS and improve P-12 learning.

DELIMITATIONS OF THE STUDY

This study was limited to describing the level of integration of teacher competencies, the barriers/challenges associated with the integration of the CCSS, and the impact of CCSS integration on initial teacher preparation program structural and programmatic elements. Initial teacher preparation faculty and deans/directors of initial teacher preparation programs in West Virginia were included in this study.

ORGANIZATION OF THE STUDY

An introduction to the study has been provided in Chapter One. The review of the related literature has been presented in Chapter Two. In Chapter Three, the research method and data collection procedures have been outlined, and study findings are presented in Chapter Four. Finally, a study summary, conclusions, a discussion and implications section, and recommendations for additional research have been offered in Chapter Five.

CHAPTER 2: REVIEW OF THE LITERATURE

Beginning with the Committee of Ten's 1893 debate on the future of the American high school (Mirel, 2006) and continuing through the 2002 No Child Left Behind reforms based on *A Nation at Risk* (Ansary, 2007), the United States has established itself as a leader of education reform. In 2009, a national discussion began that focused on all students graduating high school as college-and-career ready. This discussion, led by the CCSSO the National Governor's Association, and the Bill & Melinda Gates Foundation, propelled the latest educational policy reform. The CCSS resulted from this discussion and evolved at a time when the nation's business communities and policymakers voiced concerns that public school students were not equipped to compete in a global society (Lee, 2011; Quay, 2010).

The plan to align all state standards with the CCSS spread rapidly across the United States after the announcement of the 2010 U. S. Department of Education's Race to the Top funding. Prior to the adoption of the CCSS, states had state-specific content standards and objectives that led to the notion of "50 states, 50 standards" (Quay, 2010). The individual state standards were so "numerous" and comprehensive in nature that teachers could not have taught them adequately (Quay, 2010, p. 2; Tepe, 2014). The inconsistency in the level of rigor found within the standards across states produced deficiencies in student skills and knowledge which led to a high school diploma that differed in meaning from state to state (Ripley, 2013; Tepe, 2014). These inconsistencies contributed to the less than desired performance by American students on international tests such as the National Assessment of Educational Progress (Quay, 2010; Tepe, 2014).

The National Governors Association Center for Best Practices and the CCSSO coordinated the writing of the CCSS that structured the CCSS into two distinct elements: the Grade-Specific Standards and the College and Career Readiness (CCR) Anchor Standards (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). The Grade-Specific Standards reflected specifically what students need to know and should be able to do in each grade level and subject area. The CCR Anchor Standards defined expectations around literacy and divided the expectations into Writing, Reading, Speaking and Listening, and Language. Broad standards, such as the CCR Anchor Standards, offered a roadmap for the specific standards to spiral through grade levels. By graduation, students would have revisited the standards in each grade level and would have experienced the increased complexity of specific competencies. (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).

The CCSS were written and adopted for mathematics K-12 and English Language Arts K-12 (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). According to the National Governors Association and CCSSO, the internationally-benchmarked standards included 12 shifts in content pedagogy. The authors of the standards used evidence and research to convey rigorous college and work expectations (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). As teachers analyzed the standards for implementation, they noticed that the CCSS were smaller in number and were written with a higher level of rigor. Also, they noticed that the CCSS were written more clearly than previous state standards (Phillips & Wong, 2010).

ENGLISH LANGUAGE ARTS COMMON CORE STATE STANDARDS

The National Governors Association Center for Best Practices and the CCSSO (2010) developed the English Language Arts (ELA) CCSS in collaboration with educators around the country. The CCR Anchor Standards provided the foundation to the CCSS and also the cross-disciplinary literacy expectations for mastery by graduation. The ELA grade-level standards provided more specificity for teachers to understand what students should know and be able to do at each grade level (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). Massachusetts and Georgia experts were involved in crafting the literacy and technical literacy elements of the CCSS (Riley, 2013).

The six shifts in pedagogy reflected in the ELA CCSS included: balancing literary and informational text, using text to gain knowledge about the world, increasing text complexity, basing answers on text, using evidence to inform argumentative writing, and building academic vocabulary (New York State Education Department, 2012). Overall, teachers focused on the six shifts in order to familiarize themselves with the nuances of the CCSS.

Structurally, the ELA CCSS were divided into Reading, Writing, Speaking & Listening, and Language by grade level (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). The Reading portion of the standards was subdivided into Literature, Informational Text, and Foundational Skills. The notable division between Literature and Informational Text was due in part to the belief that students needed exposure to a wide range of texts that increased in text complexity at each grade level (Gewertz, 2011; National Governors Association &

Council of Chief State School Officers, 2010). Further, the Literacy sub-division in grades 6-12 featured literacy standards for history/social studies, science, and technical subjects to provide for cross-curricular literacy mastery (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). The high school grade level Literacy and Informational Text standards provided flexibility for high schools to offer a variety of English courses.

The authors constructing the ELA CCSS for literacy development utilized the 2009 National Assessment of Educational Process Reading Framework (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). The balance of informational text and literacy text formed the second shift in ELA pedagogy. The impact of the shift resulted in grades K-5 reading 50% literature and 50 % informational text. In grades 6-8, students would read 55% informational text and 45% literature followed by 70% informational text and 30% literature in grades 9-12 (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). By high school graduation, students taught with CCSS will have experienced more informational text with an increased rigor in text complexity than they would have using single-state standards. The authors of the CCSS believed that this exposure to increased text complexity would lead to a higher academic vocabulary and would develop students' skills in providing text-based answers (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).

Another shift in the ELA CCSS included the increase in the amount of argumentative writing based on sound evidence and reasoning (National Governors

Association Center for Best Practices & Council of Chief State School Officers, 2010). Student research was incorporated throughout the writing standards, and the scope of such research will increase in depth as students advance in grade levels (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). The CCSS authors utilized the National Assessment of Educational Progress 2011 Writing Framework to lay the foundation for the usage of argumentative writing. The CCSS authors' framework increased the usage of writing for the purpose of persuasion and exposition in each grade-level standard. Also, the authors decreased the usage of conveying personal experience in student writing (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). This decrease promoted a change from traditional standards where reader comprehension and response were mostly written in narrative form (McLaughlin & Overturf, 2012).

The National Council of Teachers of English remained instrumental in the assistance of the development of the CCSS for ELA (Gewertz, 2011). Its members provided professional development and materials to teachers for CCSS integration. Also, other professional organizations customized planning guides for each programmatic level and held virtual conferences. (Gewertz, 2011).

MATHEMATICS COMMON CORE STATE STANDARDS

The United States scores declined in The Trends in International Math and Science Study (Alberti, 2013). In a discussion of this decline, Sandra Alberti described the United States mathematics curriculum as a mile wide and an inch deep. She asserted that the United States mathematics curriculum was concerned more with covering topics, than with students applying a deep understanding of mathematical concepts (Alberti,

2013). Historically, this was the view of mathematics curriculum and was part of the reason the National Governor's Association and the CCSSO wanted new mathematics standards. The mathematics CCSS narrowed the focus of what students need to know and be able to do at each grade level (Gewertz, 2011). The mathematics standards were written to spiral through each grade allowing students to continue to build knowledge once foundational skills were understood. Skills such as mathematical modeling and problem solving were included throughout the CCSS (Gewertz, 2011). Marilyn Burns suggested that the mathematics CCSS demand that students understand math instead of just completing a page of math problems (Strom, 2013).

Shifts in mathematics pedagogy appeared within the mathematics CCSS, also. Such shifts narrowed and deepened the focus, connected learning across grade levels for better coherence, and provided students with math fluency (New York State Department of Education, 2010). The shifts also created a deeper understanding of math, helped students apply math without prompting, and balanced the intensity of practicing and understanding math (New York State Department of Education, 2010). The authors of the mathematics CCSS created vastly different standards from the previous single-state mathematics standards. The National Council of Teachers of Mathematics suggested that teachers not waste time on comparing the commonalities of their previous state standards and the CCSS, but instead just consider the CCSS as completely different standards (Gewertz, 2011).

Structurally, the mathematics CCSS consisted of content learning goals in grades K-8 and contained conceptual categories in the high school grades. (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).

Also in grades K-12 within the CCSS, mathematical practices standards featured the dispositions and approaches to learning mathematics. (Burns, 2012). Heck, Weiss, and Pasley (2011) indicated that the standards' authors described the content to be learned at each grade level, and also identified the connections students needed to make in math at each grade level.

The National Council of Supervisors of Mathematics, the Associations of Mathematics Teacher Educators, and the Association of State Supervisors of Mathematics unified to provide assistance on the creation of the mathematics CCSS as the Mathematics Common Core Coalition (National Council of Teachers of Mathematics, 2013). The Mathematics Common Core Coalition helped teachers with the integration of the CCSS. This coalition provided the research, collected information, and communicated common messages throughout the integration of the CCSS. Also, the group offered expertise and advice on content from the mathematics education community to teachers (National Council of Teachers of Mathematics, 2013).

P-12 INTEGRATION

By 2013, 43 states and the District of Columbia had adopted and integrated CCSS in various stages (ASCD, 2012; Lu, 2013). Minnesota adopted the ELA standards only, while Alaska, Nebraska, Texas, and Virginia decided against the adoption of CCSS (ASCD, 2012; Lu, 2013). South Carolina, Indiana, and Oklahoma initially adopted the CCSS; however in 2014, each voted to repeal the CCSS and to write new state standards (Ujifusa, 2014). States that adopted the CCSS also agreed to participate in an assessment of those standards. All adopting states were scheduled to administer the first CCSS based assessment in 2013-2014 or 2014-2015 (Lu, 2013). Advocates of CCSS asserted that if

teachers integrated the CCSS correctly, students graduating high school would no longer need to enroll in college remedial courses (Lu, 2013).

State timelines for CCSS integration in the public school classrooms have varied. Kentucky was the first state to adopt the CCSS for both mathematics and ELA in the winter of 2010, with the other 42 states doing so by September 2012 (ASCD, 2012). Adoption of the standards was very different from each state's timeline for integration. For instance, ASCD (2012) reported that Kentucky, North Carolina, Arkansas, Colorado, and Utah were early adopters of the CCSS in 2010. Kentucky integrated the CCSS by the 2011-2012 school year with North Carolina following in 2012-2013 (ASCD, 2012; National Governors Association Center for Best Practices & Council of Chief State School Officers, n.d.). Also, ASCD (2012) reported that Colorado and Arkansas planned CCSS integration by 2013-2014 with Utah following in 2014-2015.

The variation in strategies states used to train their teachers on the CCSS created differences in level of CCSS integration among states (Center on Educational Policy, 2012). In a survey of deputy state superintendents of education in the fall of 2011, the Center on Education Policy (2012) found that out of 38 state respondents, 33 reported that they had completed statewide professional development focused on the CCSS. Twenty-seven states reported that they had targeted the lowest performing schools with training to ensure the CCSS were being fully integrated. Some states reported that they had participated in CCSS regional summits sponsored by ASCD. No matter what path of CCSS integration states had chosen, the Center on Education Policy (2012) study suggested that the level of quality and quantity of professional development for teachers on the CCSS remained the major integration challenge.

Even after a few years of CCSS integration nationwide, acquiring quality professional development still remained a challenge for P-12 teachers integrating the CCSS. In July 2014, 65% of P-12 participants in a study on teachers' views of CCSS indicated that CCSS integration was mostly or fully complete; however, the participants voiced a continued need for support and resources with 84% listing professional development as a "critical" need (Scholastic & Bill & Melinda Gates Foundation, 2014, p. 16). Participants in the study cited specific training needed for CCSS instruction to occur. Sixty-five percent of the participants listed professional development "focusing on the content of the standards" and 64% listed the need to understand "how to embed the CCSS across subject areas" (Scholastic & Bill & Melinda Gates Foundation, 2014, p. 17).

Kentucky integrated the CCSS in 2010 in a full-scale approach with workshops on understanding the new standards and learning targets in all 174 school districts (Scott, D., 2012). In contrast, West Virginia had not taken a full-scale approach to integration. West Virginia integrated the CCSS in kindergarten in 2011-2012 with first grade being added in 2012-2013 and full integration through 12th grade by 2013-2014 (West Virginia Department of Education, 2013b). Unlike Kentucky, West Virginia used the summers for professional development of teachers and alternated the grades receiving the training each year. D. Scott (2012) reported that West Virginia provided professional development to kindergarten, first, fourth, fifth, and ninth graders in 2011 as the first step in the state's integration process. Training was then provided to teachers teaching second, third, sixth, eighth, and tenth grade in the second year of integration (Scott, D., 2012). In a study conducted by Education First and Editorial Projects in Education Research Center (2012), West Virginia was among just seven states with clear plans for CCSS integration

transition that involved training on new curriculum materials along with specific professional development.

A 2014 Primary Sources study asked participants about the ways in which they had received professional development or knowledge of CCSS (Scholastic & Bill & Melinda Gates Foundation, 2014). Fifty-seven percent stated they had received quality professional development from the school, district, or state on the instructional shifts found within the CCSS. Also, 39% of participants reported that they had sought the information on their own personal time (Scholastic & Bill & Melinda Gates Foundation, 2014). More than half of the participants (51%) reported that they had received school, district, or state training on the content standards related to their teaching assignments. Further, participants (46%) reported that the school, district, or state had provided professional development on how to embed the CCSS across subject areas (Scholastic & Bill & Melinda Gates Foundation, 2014).

The challenge of acquiring CCSS-aligned instructional materials and resources also affected P-12 integration of CCSS. The 2014 Primary Sources study reported that 74% of P-12 participants cited a great need for leveled and age appropriate instructional materials, as well as a need for aligned, high-interest instructional materials (Scholastic & Bill & Melinda Gates Foundation, 2014). Also, teachers reported a need for digital resources such as software programs and apps aligned to CCSS (Scholastic & Bill & Melinda Gates Foundation, 2014).

The issue of time also affected the level of CCSS integration in the P-12 system. Seventy-eight percent of P-12 teachers in the Primary Sources 2014 study cited the critical need for additional planning time (Scholastic & Bill & Melinda Gates Foundation,

2014). Participants indicated that this time was needed to find CCSS-aligned instructional materials and resources, as well as to prepare the CCSS lessons. More opportunities and time for collaboration with other educators, was listed by 78% of the participants as a crucial need for the further integration of CCSS (Scholastic & Bill & Melinda Gates Foundation, 2014).

Ruchti, Jenkins, and Agamba (2013) surveyed 241 secondary teachers from school districts throughout the state of Idaho concerning the critical supports in CCSS integration. Between 98% and 99% of participating teachers stated that for full integration of CCSS, “collaborative time with other teachers” was a critical component. Further, teachers listed additional individual planning time and the need for aligned CCSS resources as critical elements to support full implementation (Ruchti, Jenkins, & Agamba, 2013). According to Massell and Perrault (2014), “time to prepare and organize instruction, time to meet with other teachers and professionals to learn in a recursive and extended, collaborative way” remained specific supports necessary to the successful integration of CCSS (p. 200).

HIGHER EDUCATION INTEGRATION

As the P-12 programs across the United States worked to integrate CCSS, initial teacher preparation programs assessed ways in which the integration of CCSS affected their structural and programmatic elements. Preparation programs were asked to approach their programs and structural elements with a deep understanding of CCSS, so that their new professional graduates would also have those deep understandings (Jones & King, 2012). Admission standards, teacher candidate assessments, and field

experiences were adjusted in various institutions of higher education to meet full CCSS integration in their teacher preparation programs.

Teacher Preparation Program Admission Standards

The National Council on Teacher Quality (NCTQ) deemed admission standards as one of the “fundamental requirements” of a post-secondary teacher preparation program (Wash & Riddell, 2013, para. 4). With the integration of the CCSS this fundamental requirement in some institutions was adjusted. Grossman (2009) revealed that only 15 states had established minimum admission standards for post-secondary students seeking to complete a teacher preparation program. Another outcome of the integration of CCSS was the alignment of high school courses to college expectations for college and career readiness; therefore, “colleges should articulate clearly the courses they expect students to take in high school to be college ready,” so that students can enter credit-bearing courses in teacher preparation programs successfully (Jones & King, 2012).

Over the years, teacher preparation programs also noticed a difference in the type of students wishing to become teacher candidates. In Michael Allen’s (2006) “Eight Questions on Teacher Preparation: What Does the Research Say,” 20% of new teachers ranked within the top 10% percent of their high school graduating class of 1964, yet only 1 in 10 ranked at that level in 2006. According to the 2009 NCTQ study, a majority of the teacher candidates graduated in the bottom third of their graduating class (Perry, 2011).

Teacher Preparation Program Coursework Requirements

In the past, most traditional teacher preparation programs required coursework that involved professional education courses and also required coursework within the

candidate's chosen content area. Studies have documented that the P-12 students taught by teachers with training in professional education knowledge increased in overall achievement because such teachers provided a variety of learning opportunities (Stronge, 2002). Stronge (2002) also reported that teacher performance was indicative of "the amount of coursework in education" (p. 5).

The effect of the exposure to specific professional education knowledge was documented by the National Academy of Education, also (Perry, 2011). Typically, teacher preparation programs designed the professional education courses to include educational psychology, assessment, diversity and multiculturalism, learning theories, historical aspects of education, classroom management, and special education (Perry, 2011).

Teacher preparation programs stressed the importance of content knowledge. A strong mastery of subject-matter knowledge allowed a teacher to go beyond the instructional material's content and "involve students in meaningful discussions and student-directed activities" (Stronge, 2002, p. 8). Some alternative teacher preparation programs allowed candidates with only a subject-matter degree to take a few educational pedagogy courses to become teachers. Stronge (2002) speculated that teachers with content-specific knowledge, but who lack the coursework in educational pedagogy, may not be successful in conveying the content knowledge to students (Stronge, 2002).

In response to the integration of the CCSS at the P-12 level, the postsecondary teacher preparation programs were prompted to align their content specific coursework with the CCSS and to "raise the bar dramatically in terms of content mastery of incoming teachers" (Finn & Petrilli, 2010). If higher education institutions aligned preparation

programs to CCSS, the teacher candidates who graduated from the teacher preparation programs would be better prepared to successfully teach students using the CCSS (Jones & King, 2012). Some state's policies directed how post-secondary institutions determined their content specific programs and dictated that current K-12 standards be addressed in the preparation programs (Sawchuk, 2014). Some institutions mandated that teacher candidates major in a content area, while others mandated that candidates complete a program containing a variety of subjects related to classes offered in public schools (Perry, 2011). The National Comprehensive Center for Teacher Quality found that only 32 states mandated the alignment of the content specific coursework to the CCSS in their teacher preparation programs (Perry, 2011). Further, proponents of the CCSS suggested that course sequences should also be aligned to the standards (Jones & King, 2012).

Kate Walsh (2013), president of the National Council on Teacher Quality, reported that 75% of teacher preparation programs have not trained elementary teachers to develop a conceptual number sense. Also, Walsh (2013) suggested that teacher candidates should be able to choose materials based on text complexity and deliver appropriate lessons based on CCSS before entering the classroom. Sandra Stotsky explained that teachers of reading needed to be taught how to develop their elementary and middle school programs to meet the new literary demands at the high school level based on the CCSS (Young, 2013a). Stotsky discussed that teacher training should include how to teach those pieces of literature containing allusions and references of history. Also, he indicated that the pedagogy of the non-Advanced Placement English

teachers should be influenced to teach all students rich literature content as well as how to read political documents (Young, 2013a).

In the September 2013 Center on Education Policy study, 27 out of 40 states responded that aligning the coursework of the teacher preparation programs with CCSS was a challenge. These numbers remained the same from the Center on Education Policy's 2012 study when 27 states responded that their teacher preparation programs would align to the CCSS, while 5 states mentioned they had no plans to do so. The Center on Education Policy's 2013 study also reported that in 35 of the 40 states responding, postsecondary institutions had worked with their state education agencies to prepare teacher candidates to teach the CCSS content.

While states like those in the New England area held meetings to discuss how the changes in the CCSS impacted math and language curriculum or worked with their teacher preparation faculties on CCSS professional development, other states worked on revising their teacher preparation program course work (Chan, 2013). Illinois officials announced that the teacher candidates within their post-secondary teacher preparation programs had demonstrated that they could teach their students to meet the CCSS (Harris, 2013). Harris (2013) acknowledged that Illinois teacher preparation programs had modified the content knowledge courses to add coursework in at least four sciences and four social sciences for state elementary certification. In order to integrate CCSS with teacher preparation, Eastern Kentucky University worked extensively in 2011-2012 to realign general education, teacher preparation, and developmental coursework in a collaborative that utilized a professional learning community approach to developing the new syllabi (Lowe, 2013).

Furthermore, teams of post-secondary and public school educators collaborated to inform the guiding principles for teacher preparation programs. One example, The Math Teacher Education Partnership, funded by the National Science Foundation, has consisted of 38 teams nationwide working collaboratively to align the CCSS with secondary math teacher preparation programs (Association of Public and Land-Grant Universities, 2011). Since the CCSS adopting states shared the same standards and “a math teacher in West Virginia now has a great deal in common with a math teacher in Montana,” mathematics teachers must have an understanding of the CCSS during their preparation programs in order to create lessons that successfully teach students the mathematics standards (Scott, P., 2012, para. 6).

Teacher Preparation Program Teacher Candidate Assessments

As post-secondary institutions revised teacher preparation programs to meet the demands of the CCSS, an integral change in the teacher candidate assessments evolved. The American Federation of Teachers (AFT) Teacher Preparation Taskforce (2012) suggested that the process of becoming a teacher should be much like the process of a law student passing the bar exam to become a lawyer . The AFT Taskforce suggested a universal assessment that all teacher-candidates would need to successfully pass. Further, it promoted the requirement that all teacher candidates should meet the same competency standards nationwide. However, its members agreed that these universal assessments must involve more than pencil and paper assessment. The Taskforce also asserted that the teacher candidate assessments should be both formative and summative, contain a presentation at the end of a candidate’s clinical experiences, and involve a portfolio of

documents depicting the successful understanding of all teaching competencies (American Federation of Teachers Teacher Preparation Taskforce, 2012).

Educational Testing Service developed the Praxis Series tests for teacher certification (Educational Testing Services, 2013). These assessments have been used in over 40 states and have traditionally been comprised of written or computer-based exams that test the teacher candidates on basic skills, basic education knowledge, and content specific to the teacher-candidates chosen program (American Federation of Teachers Teacher Preparation Taskforce, 2012). The Educational Testing Service (2013) worked in collaboration with 16 states to develop a performance-based assessment that sought to “identify candidates’ strengths and weaknesses” (para. 3). This Praxis Pre-Service Portfolio contains formative and summative assessments to help ensure that the pre-service candidate demonstrates effective teaching practices. In the electronic pre-service portfolio, the teacher candidates organized assessments, artifacts, and reflections, as well as a Professional Competency Profile. Further, Educational Testing Service and its collaborators indicated that the pre-service electronic portfolio established a comprehensive picture of the teacher candidates for the teacher preparation programs.

One state that adjusted teacher candidate assessments at the post-secondary level was California (California Commission on Teacher Credentialing, 2013). The Commission on Teacher Credentialing (2013) revised the California Standards Examination for Teachers in math, English, and multiple subjects. Teacher candidates are required to take the exam prior to the issuance of preliminary credentials. By 2014-2015, all California college and university teacher candidates will also be required to pass

a teacher performance test based on the California Teaching Performance Expectations that were aligned to CCSS (California Commission on Teacher Credentialing, 2013).

Teacher Preparation Program Field Experiences

The field experience component has remained one of the essential elements of a teacher preparation program. Such experiences have varied in quality and quantity from institution to institution (Perry, 2011). The National Governor's Association offered the option for states to require their teacher preparation programs to emphasize CCSS mastery within the teacher candidate's clinical or field experience (Grossman, Reyna, & Shipton, 2011).

High quality field experiences allowed the teacher candidates to apply the strategies they have learned in their professional education courses. According to Perry (2011) because of the variance in the way post-secondary institutions have utilized the clinical experiences in the teacher preparation programs, some teacher candidates across the country started field experiences during their first year of coursework. Others are not required to step into a classroom experience until their final capstone requirement (Perry, 2011).

The National Council on Teacher Quality (NCTQ) surveyed teacher preparation programs to identify ratings on their clinical experience program components (Greenberg, Pomerance, & Walsh, 2011). Seventy-five percent of the teacher preparation programs reported a weakness in the amount of time teacher candidates spent in their clinical experiences. Also, the teacher preparation programs reported a weakness in the quality of mentor feedback provided to the teacher candidates while in the field. The NCTQ reported that only 7% were model programs for clinical experience. (Greenberg et al.,

2011). The NCTQ asserted that teacher preparation programs should consider the quality and quantity of the clinical experiences for teacher candidates, so that their candidates will have the opportunity to practice their skills and knowledge as they received specific guidance from a qualified mentor teacher (Greenberg et al., 2011).

Teacher Preparation Program Technology Needs

In the Council for Accreditation of Educator Preparation (CAEP) (2013) Standards, the guidance featured the technology skills that all teacher candidate completers must demonstrate in Standard 1. Within the CAEP standards, the provider responsibility 1.5 mandated that providers ensure that the teacher candidate completers not only demonstrated, but also apply technology standards. Also, CAEP required teacher candidates to “design, implement and assess learning experiences to engage students and improve learning; and enrich professional practice” through the use of technology (Council for the Accreditation of Educator Preparation, 2013, p. 3).

According to an essential philosophy of the CCSS, a student who is college and career ready has demonstrated success in “using technology and digital media strategically and capably” (McLaughlin & Overturf, 2012, para. 18). The new CCSS assessments required students to complete the assessment process on digital devices or computers. Further, the assessment designers developed the complex assessments with the features of real-world multipart tasks for students to demonstrate capable use of technology (Doorey, 2013).

Teachers have reported that technology plays a major role in the classroom by helping increase student engagement, by supporting student achievement, and in differentiating classroom instruction (Scholastic & Bill & Melinda Gates Foundation,

2012). Over half of the veteran teachers (59%) indicated that students, especially in secondary grades, required technology to keep them engaged and 88% reported that integrating technology in the classroom fosters a positive effect on classroom achievement (Scholastic & Bill & Melinda Gates Foundation, 2012). The new CCSS assessments asks students to complete multi-task questions, perform online searches, use statistical packages, select credible sources, and cite evidence. Teachers who have tailored instruction using these technologies are providing their students the experience necessary to be successful on the CCSS assessments (Doorey, 2013).

CCSS TRAINING AND TEACHER PREPARATION

State departments of education and public school districts who led CCSS professional development discovered essential knowledge and skills that fostered successful integration of the standards (Hanover Research, 2012). Such knowledge and skills were found traditionally in teacher preparation program coursework and often were divided among professional education courses, specific content courses, and technology application courses.

The skills and knowledge found within professional education coursework included: strengthening classroom assessment practices, teaching complex thinking, honing higher-order questioning techniques, creating real-world personalized learning experiences, utilizing a collaborative work culture, and reflecting on professional practice (Council for the Accreditation of Educator Preparation, 2013; Hanover Research, 2012; Scholastic & Bill & Melinda Gates Foundation, 2012). Specific content knowledge coursework included a deep understanding of the necessary background knowledge, skills, and dispositions that mirror the CCSS at the content and grade level. Teachers with

content-specific knowledge acquired an understanding of the concept of a spiraling curriculum. They practiced utilizing specific content assessment data, balancing informational and literary text across the curriculum, fostering academic vocabulary, and using text complexity to instruct students (Scholastic & Bill & Melinda Gates Foundation, 2012).

CCSS Knowledge/Skills within Professional Education Coursework

In order to effectively implement CCSS, P-12 and institutions of higher education have agreed that teachers must have particular knowledge and skills. Developing assessment literacy, teaching complex thinking, creating real world personalized learning experiences and utilizing a collaborative work culture have become essential tools for success in today's common core classroom.

Developing Assessment Literacy. Classroom assessment became a focus of the CCSS professional development for practicing teachers when all CCSS-adopting states also agreed to implement a new state assessment. According to a 2012 report by Hanover Research, training in assessment literacy became imperative for teachers. Popham (2008) described teachers who are assessment literate as having an understanding of and being able to use various forms of assessment. Successful teachers have developed an understanding of the differences between formative and summative assessments and created various classroom assessments for effective CCSS integration (Flaherty, 2014; Hanover Research, 2012).

Before effective teachers began instruction on a standard, they assessed for background knowledge to help fill the learning gaps of their students (McLaughlin & Overturf, 2012). Also, effective teachers used formative assessments on a daily basis to

measure progress of students with each standard and across the standards (McLaughlin & Overturf, 2012). Additionally, teachers used formative assessments as a measure to effectively adjust instruction and improve student learning (Black & Wiliam, 1998; Popham, 2008).

In *Primary Sources: 2012*, a project led by the Bill and Melinda Gates Foundation and Scholastic, 10,000 teachers responded to a survey regarding the effect of CCSS on student achievement. Of those surveyed, 78% reported an awareness of the CCSS and 49% reported that common assessments made a significant improvement in student achievement (Scholastic & Bill & Melinda Gates Foundation, 2012). Further, 61% of teachers responded that they would need formative assessments as supports or resources for the effective teaching of CCSS (Scholastic & Bill & Melinda Gates Foundation, 2012).

Previously, many teacher preparation programs have failed to include a formal training requirement for understanding assessment (Crooks, 1998; Popham, 2009). Stiggins (2006) asserted that teachers who gained exposure during their preparation programs did so in a methods or educational psychology course. Since all teachers should assess students continuously, they should display “sufficient assessment literacy” in order to ensure that their classroom assessments are “satisfactory” (Popham, 2009, p. 7). Effective teachers have developed a comprehensive planning process for assessment that enables them to utilize the data they received from student assessments. Also, effective teachers have determined critically whether the assessments have met the needs of the students. Then from the assessment process, the teachers have designed the necessary changes in the instruction (Udall, 2013).

Danielson, author of the *Framework for Teaching*, wrote that assessment is an “integral part of instruction” and a “skill you learn how to do” (Pipkin, 2013, para. 12). Popham (2009) suggested that if teacher candidates have not received instruction on assessment in their teacher preparation programs, then schools and school systems should provide the professional development to get them prepared. Popham (2009) predicted that within the next 20 years, assessment literacy will become a requirement in teacher preparation programs.

Teaching Complex Thinking. Strengthening teachers’ abilities to teach complex-thinking skills emerged as a second element of professional development related to CCSS integration. The CCSS included application of content and knowledge through complex higher-order skills (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). Charlotte Danielson identified the skills necessary to integrate CCSS effectively as the following: the engagement of students in deep thinking on concepts and the instruction of students to respectfully challenge each other in the classroom (Pipkin, 2013). Danielson promoted effectively designed learning experiences as being the most important tool for teachers to acquire these skills (Pipkin, 2013). Part of being able to recognize if students are employing critical thinking skills is to examine the way teachers ask those thoughtful questions. Effective teachers have incorporated thoughtful questioning techniques based on the standards and have assured that students explain their answers successfully (Pipkin, 2013). Also, effective teachers noticed students using methods of argumentation and questioning each other thoughtfully (Davis, 2012; Pipkin, 2013).

The authors of the CCSS asked students to think like writers or mathematicians that leads to a second order change or a shift in philosophical thinking (The Learning Sciences Marzano Center, n. d.). Also, they required teachers to build student skills in analyzing and weighing information to make determinations. Asking students to analyze and weigh information affected the classroom by influencing how teachers engaged students in the higher-order thinking skills (The Learning Sciences Marzano Center, n.d). For example, the authors of the mathematics CCSS required third grade students to demonstrate a “thorough understanding of what a fraction is” and required them to “view fractions as divided wholes and as numbers on a number line” which increased students’ higher-order thinking skills (Heitin, 2014b, p. S7). The CCSS skills pushed students to “apply and extend” their knowledge of fractions which further prompted teachers to engage their students with mathematical elements other than simple algorithms (Heitin, 2014b, p. S8)

One method that trainers used with teachers to increase their ability to teach complex thinking skills was to draw from their professional knowledge of Bloom’s Cognitive Process Dimensions (Hess, 2006). Many teachers used Webb’s Depth-of-Knowledge Levels to move students from Level One Recall through Level Four Extended Thinking. Teachers planned learning experiences at each level to help their students advance through the levels of thinking and into a deeper understanding and application of the standard being studied (Hess, 2006). Also, Stronge (2002) noted that a quality of an effective teacher is that the teacher develops questions and activities that led students to attain higher-level thinking skills.

Creating Real-World Personalized Learning Experiences. The National Governor’s Association suggested that teachers be given professional development in teaching content to a diverse population of students (National Governors Association, 2009). Coupled with the beliefs of the CCSSO’s Interstate Teacher Assessment and Support Consortium (2013), some experts acknowledged that all teachers should be able to identify the learners and their learning differences in the classroom and should be able to tailor learning experiences to meet the needs of each individual student. In order for students to achieve CCSS personal student learning goals, experts agreed that teachers must be able to “diagnose learning gaps and develop customized instruction” (Perry, 2011, p. 4). According to CAEP (2013), “Teachers must understand that learning and developmental patterns vary among individuals” and that the learning process has become enriched with learners bringing those individual differences to the classroom (p. 5). Further, personalized learning proponents emphasized that students are the center of the learning experience and that the students should make personal choices on how those learning experiences are developed. Such learning experiences often focused on real-world themes (Davis, 2012).

In a survey of 10,000 teachers, half of the teachers responded that their students were prepared for work on-grade-level (Scholastic & Bill & Melinda Gates Foundation, 2012). Due to today’s increasing class diversity, teachers expressed that they needed further training on differentiated instruction in order to “instruct and engage students in the best ways possible” (Scholastic & Bill & Melinda Gates Foundation, 2012, p. 50).

James H. Stronge, in *Qualities of Effective Teachers* (2002), suggested that effective teachers possessed knowledge of pedagogy and had the ability to discern

student needs and tailor instruction to support each student. Effective teachers recognized the “importance of linking instruction to real life” (Stronge, 2002, p. 39). The CCSS were built around students accessing and utilizing more complex texts and developing real number sense (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). For effective CCSS integration, teachers assessed individual students’ proficiency and created opportunities to help students meet those needs as part of the learning process.

Utilizing a Collaborative Work Culture. Stronge (2002) discussed the act of working collaboratively with other staff members as an attitude that effective teachers display within the teaching profession. Sharing ideas and assisting other teachers in the school or school district creates positive working relationships and holds both students and teachers responsible for achievement (Stronge, 2002). Further, in Standard 10: Leadership and Collaboration of the InTASC *Learning Progressions for Teachers*, the authors advocated seeking collaborations with all learners, teachers, community members, and other professionals, to support productive learning environments as a standard for teacher candidates (CCSSO’s Interstate Teacher Assessment and Support Consortium, 2013; Council for the Accreditation of Educator Preparation, 2013).

In many states, the CCSS integration process promoted professional development through professional learning communities (PLC). Richard Dufour defined a PLC as a committed group of educators working in ongoing collaboration to inquire collectively and utilize action research to help student achievement (Dunkle, 2012). Dunkle suggested forming PLCs as one collaborative way to increase teacher knowledge, understanding, and implementation of CCSS in the classroom. In the Scholastic & Bill &

Melinda Gate's *Primary Sources: 2012* study, 35% of teachers reported that a collaborative culture was essential while 48% reported a collaborative culture was very important within the teaching profession.

Udall (2013) suggested that teaching is no longer an "isolated profession" (para. 4) and that PLCs emerged as a structure where teachers discussed instruction in a purposeful way. Charlotte Danielson indicated that implementing the CCSS was a natural place for teachers to work collaboratively and was a place to collaborate with an instructional coach or a principal (Pipkin, 2013). In PLCs, teachers used the collaborative time to share knowledge, understandings, resources, and instructional techniques to effectively support students. For reform to be meaningful, Brooks and Dietz (2013) maintained that a "collegial culture in which teachers are continually advancing their practice" and adjusting instruction using current student data was essential (p. 66). One such example of how PLCs helped teachers understand the CCSS was for teachers to utilize collaborative time to study the CCSS progressions one at a time. "Three to five elementary teachers could meet once a week to read a single progression" because the progression documents were "written to be studied, and you don't study alone" (Heitin, 2014c, p. 11).

CCSS Knowledge/Skills Within Content Coursework

Some teacher preparation programs have utilized the connection between the CCSS professional development of P-12 systems and the specific content coursework of teacher candidates. The provider responsibilities in CAEP's (2013) Standard 1 required teacher candidate completers to "apply content and pedagogical knowledge" (p.3). Gewertz (2012) reported that Kentucky completed a three-day forum on CCSS with a

collaborative meeting of K-12 and higher education. The Kentucky participants discussed that the new content of the CCSS caused a shift in pedagogy for teachers. Also, the participants acknowledged that teacher preparation programs have been graduating pre-service teachers who were mathematically “fragile” and needed further instruction on mathematical content before even attaining professional development on effective instructional strategies (Gewertz, 2012, para. 34).

With CCSS integration, the states and public school systems determined that teachers must develop a deep understanding of the necessary background knowledge, skills, and dispositions of the standards in the content and grade level (Pipkin, 2013). The authors of the CCSS believed teachers also must demonstrate a conceptual understanding of a spiraling curriculum since the CCSS spiral through grade levels (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). Additionally, Hanover Research (2012) reported that teachers must acquire knowledge of balancing informational and literary texts, understanding text complexity, choosing appropriate materials and resources, and incorporating specific instructional strategies related to their content.

In *Qualities of Effective Teachers*, Stronge (2002) suggested subject matter knowledge positively impacted students when the teacher received professional pedagogical coursework. Stronge (2002) reported that content area preparation produced stronger student achievement in the classroom more often than those classrooms where the teacher failed to have adequate content area knowledge. Further, studies suggested that students with teachers who developed strong content backgrounds asked more

higher-order thinking questions and created more student-directed activities (Stronge, 2002). Clearly, content area knowledge strengthened teaching.

Deep Understandings and Spiraling Curriculum

With the rapid integration of the CCSS by the 43 states, the process for P-12 professional development varied. One concern was that the pace of the integration resulted in a lack of understanding of the changes associated with the adoption of the CCSS (Alberti, 2013). Focusing on the shifts found within the mathematics and the English Language Arts laid the foundation for professional development (Alberti, 2013).

Dunkle (2012) agreed that understanding the background knowledge required by the CCSS should occur first in the professional development process. Dunkle then suggested a deep exploration into the grade-level-specific content mastery standards and the relationship of the standards to the corresponding College and Career Readiness Anchor Standards occur as a portion of teachers' training. Next in the process, Dunkle suggested a deep study of the appendices for instructional planning. Teachers who explored and connected the standards in such a manner developed a deeper understanding of the standards and gained an understanding that the CCSS are simply standards, not a curricular program (Heitin, 2014c; Pipkin, 2013).

Once teachers attained the deep knowledge of the standards, they engaged in practical, real-world learning experiences. These practical, real-world experiences fostered the understanding of the skills and dispositions necessary for students to be successful with the CCSS (Hanover Research, 2012). For instance, a 2012 Hanover Research study indicated that mathematics teachers may need further training in specific skills such as concept development and building problem solving lessons. Further,

Hanover Research suggested that mathematics professional development should be sequenced and focused on those domains that have become unfamiliar to teachers of various grade levels or that have surfaced as the foundational skills for future concepts. Also, Heitin (2014c) suggested that since coherence had been identified as a major shift in CCSS mathematics, teachers must develop a deep understanding of how the mathematical ideas “link both within and across grade levels” (p. S10).

Likewise, skills and dispositions within the English Language Arts standards were a focus of continued professional development for teachers. Traditionally, elementary and middle school teachers were not prepared to teach students argumentative writing, nor were they given strategies to teach students how to read complex informational texts. Therefore, time spent in practical learning experiences would serve teachers well (Phillips & Wong, 2010).

The CCSS authors spiraled the standards through the various grade levels in the content areas and referred to the spiraling as learning progressions (Marzano, Yanoski, Hoegh, & Simms, 2013). The learning progressions in the CCSS illustrated the increasingly sophisticated levels that students developed in understanding and mastery over time. During the professional development process, teachers should gain an understanding of how these learning progressions changed at each grade level in order to assess student mastery of each standard (Heitin, 2014b; Pipkin, 2013). Knowing what students should master prior to the current grade level, as well as what they will be required to master after leaving the current grade level is critical in crafting those successful personalized learning experiences (Dunkle, 2012; Heitin, 2014b).

Balancing Texts While Utilizing Text Complexity

The English Language Arts CCSS presented a major pedagogical shift for teachers. Previous state standards allowed for a concentration of reading and writing of narrative or literary sources (Alberti, 2013). The CCSS shifted to a more balanced approach with students being engaged more frequently with informative and argumentative writing (Alberti, 2013). The CCSS required elementary students to read 50% informational texts while high school students read 70% informational materials (Riddile, 2012). Further, the texts that were used with students to achieve the CCSS increased with complexity (Fisher & Frey, 2012).

With the reading of more complex texts, teachers must require students to understand and act upon those complex texts in writing (Young, 2013b). In order for students to become engaged with more complex texts, teachers provide instructional scaffolding during the lesson (International Reading Association Common Core State Standards Committee, 2012). Without being able to read the text, students would not learn anything from them (Fisher & Frey, 2012). With continued CCSS engagement, Brooks and Dietz (2013) reported that excellent teachers must balance literary and informational texts with scaffolding text complexity.

Using Instructional Strategies to Teach the CCSS

In-service teachers have become accustomed to professional development opportunities where teachers share and practice instructional strategies (Gewertz, 2012). Thus, once professional development providers had exposed teachers to the deep understandings of the CCSS in their content and grade level, they also trained teachers in specific instructional strategies for full standards implementation. Within the InTASC

Standard 8, teachers are required to “understand and use a variety of instructional strategies” (Council for the Accreditation of Educator Preparation, 2013, p. 4). Such requirements led to the promotion of deep understandings of content areas and skills in learners (Council for the Accreditation of Educator Preparation, 2013).

For integration of the English Language Arts CCSS, the International Reading Association CCSS Committee (2012) reported that instruction in using scaffolding techniques such as rereading, encouragement, and explanation must occur. In lower grades, foundational skills of fluency and phonics instruction may be needed as students learn to read more complex texts (International Reading Association Common Core Standards Committee, 2012). In order for students to interact completely with the texts they are reading, students must be instructed in fully utilizing basic comprehension skills. Summarizing skills, such as close reading and as using central ideas and supporting details to understand text, have become necessary for mastering texts (Boyles, 2013).

Academic vocabulary surfaced as a major component of the literacy standards across all content areas (Hanover Research, 2012). In order to build upon student knowledge, teachers engaged in professional development across disciplines on how to teach and utilize academic vocabulary (Boyd, Sullivan, Popp, & Hughes, 2012). Traditionally, students were asked to memorize vocabulary. With CCSS training, teachers created experiences to allow students to gather information and connect the vocabulary to their own background knowledge (Davis, 2012). Further, professional development occurred on instructional strategies to help students incorporate new vocabulary. Such strategies included read alouds and routines to integrate vocabulary

development into everyday language and were important components in the design of CCSS lessons (Hanover Research, 2012).

In the mathematics CCSS, problem solving and reasoning skills were represented throughout the grade levels. Hanover Research (2012) suggested that teachers must be able to create experiences that show students how to reason abstractly and quantitatively. Specific instructional strategies that encouraged students to discuss their own reasoning during problem solving and applying the reasoning to other mathematical problems should be provided in teacher training. One such instructional strategy found to be helpful for students to learn mathematical reasoning was referred to as a “number talk” (Young, 2005). Incorporating effective instructional strategies increased student engagement and allowed for efficient CCSS practice for students (Hanover Research, 2012).

Choosing Appropriate Evidence-Based Resources

Instructional materials changed with the implementation of CCSS. Teachers were accustomed to using the structure of a textbook to plan their lessons; however, standards-based textbooks that meet the needs of all students were not readily available for the CCSS (Fisher & Frey, 2012). Because of the lack of aligned materials, teachers and school leaders learned to collaborate in the selection of more complex texts for students.

Beginning in October of 2014, a cadre of teachers across the nation learned how to evaluate classroom mathematical materials. The publishers of the materials claimed that they were aligned to the CCSS. This “teacher-driven review process” consisted of “cross-team calibration” (Heitin, 2014a, p. 1). This calibration used a curriculum review process to measure the materials against three benchmarks (Heitin, 2014a). The first benchmark identified if the materials used the CCSS for focus and coherence, the second

determined the rigor of the material, and the third benchmark focused on overall usability of the materials. Teachers met in groups to score materials. The scores and comments were provided to the publishers with hopes that more materials would have better alignment to the CCSS. In some cases, the materials that were suggested and used by certain states, received poor scores and comments. This led to the issue of “alignment being in the eye of the beholder” (Heitin, 2014a, p. 10).

With CCSS integration, teachers used more supplementary materials to engage students in learning than with previous standards (Pipkin, 2013). As teachers gained training in the standards and started to work with the essential skills embedded within the standards, professional development in evaluating the applicability of instructional materials to the standards was suggested (Pipkin, 2013). Such professional development guided teachers in making decisions on using supplemental materials when core texts revealed a specific weakness or when a student needed practice in an essential piece of a standard (Hanover Research, 2012).

COUNCIL FOR THE ACCREDITATION OF EDUCATOR PREPARATION

The CAEP (2013) Standards identified three factors linked to strong outcomes for students: content knowledge, field experience, and teacher candidate quality. The first standard, Content and Pedagogical Knowledge, ensured that teacher candidates developed “a deep understanding of the critical concepts and principles of their discipline” and used “discipline-specific practices flexibly to advance the learning of all students toward attainment of college-and-career readiness standards” (Council for the Accreditation of Educator Preparation, 2013, p. 2). The College and Career Readiness Anchor Standards linked CAEP Standards to the CCSS. CAEP defined in the provider

responsibilities under Standard 1 examples of the rigorous college-and-career-ready standards that teacher preparation program completers demonstrate both in skills and commitment. Such examples identified were: Next Generation Science Standards, National Career Readiness Certificate, and Common Core Standards (Council for the Accreditation of Educator Preparation, 2013, p. 3).

CAEP Standard 1 connected the CCSS idea of “deeper learning” between instruction and content to the development of the teacher candidate (Council for the Accreditation of Educator Preparation, 2013, p. 5). To have the deeper content knowledge, CAEP (2013) suggested teacher candidates “advance their students’ learning” through the appropriate presentation of the content appropriate to the learning situation (p. 5). CAEP recognized the contribution of the CCSS to the development of Standard 1 and its components.

In 2014, The West Virginia Board of Education signed an initial agreement with CAEP for accreditation of educator preparation programs in the state through July 31, 2021 (West Virginia Department of Education (2014b). According to the agreement, the West Virginia Board of Educator required that the Educator Preparation Providers meet CAEP Standards with the demonstration of accurate and sufficient evidence (West Virginia Department of Education, 2014a). Effective November 10, 2014 the West Virginia Board of Education required the state’s institutions of higher education offering educator preparation programs to attain CAEP accreditation along with the West Virginia Board of Education approval (West Virginia Department of Education, 2014b).

SUMMARY

Viewed as a “commendable product,” the creation of the CCSS impacted P-12 and higher education institutions in various ways (Finn & Petrilli, 2010, p .2). The integration of the ELA and mathematics CCSS challenged teacher’s instructional pedagogy about as well as their methods of instruction. The shifts found within CCSS helped change the process and the content of professional development. This in turn affected the structural and programmatic elements of teacher preparation programs. Further, once integration of CCSS began, teachers voiced concerns about the barriers and challenges they faced and also identified necessary supports that were needed for them to be effective teachers of CCSS.

The 43 states that integrated the CCSS also agreed to participate in a new statewide assessment (Lu, 2013). For complete integration to occur and for their students to be competitive on the new assessments, states created their CCSS professional development process for their P-12 teachers. One successful structure of professional development described was the professional learning community (Dunkle, 2012). Most states trained teachers on the CCSS shifts, but may have stopped short of training that consisted of deep exploration into the spiraling standards and the corresponding College and Career Readiness Anchor Standards (Alberti, 2013; Dunkle, 2012). Professional development focused on specific competencies such as instructional strategies and specific knowledge and skills that would assist teachers in fully integrating the CCSS. Specific competencies such as: teaching academic vocabulary, creating real-world experiences for students, developing assessment literacy, balancing texts with text complexity, teaching complex thinking, utilizing a collaborative work culture, and

choosing appropriate evidence-based resources were considered critical to the teaching of CCSS (Brooks & Dietz, 2013; Davis, 2012; Hanover Research, 2012; McLaughlin & Overturf, 2012; Pipkin, 2013; Udall, 2013).

While P-12 worked to integrate the CCSS, teacher preparation institutions were challenged to integrate the standards into their programs (Jones & King, 2012). This prompted suggested changes in the teacher preparation programs structural and programmatic elements. Elements such as admission standards, coursework requirements, candidate assessments, field experiences, and the programs' technological standards were suggested areas for teacher preparation programs to review in order to effectively integrate the CCSS (American Federation of Teachers, Teacher Preparation Task Force, 2012; Council for Accreditation of Educator Preparation, 2013; Finn & Petrilli, 2010; Grossman et al., 2011; Walsh & Riddell, 2013). In West Virginia and other states, the CAEP standards have connected the CCSS in the P-12 classroom to the teacher preparation programs through the College-and-Career Readiness Anchor Standards (Council for Accreditation of Educator Preparation, 2013). The CAEP standards propelled the integration of the CCSS in higher education institutions that seek CAEP accreditation.

Addressing challenges and barriers, as well as the great need for specific supports, has remained critical to the integration of CCSS. Overall, teachers reported that professional development was both their greatest challenge/barrier and their greatest need (Scholastic & Bill & Melinda Gates Foundation, 2014). Specific professional development topics from understanding the content standards to learning to embed the CCSS across the curriculum were mentioned as needs by teachers (Scholastic & Bill &

Melinda Gates Foundation, 2013). Even though the literature clearly cited numerous studies on CCSS integration in P-12, few studies have investigated the specific impact of CCSS integration on teacher preparation programs, as perceived by initial teacher preparation faculty.

CHAPTER 3: RESEARCH METHODS

This study examined the level of integration of the CCSS within West Virginia higher education initial teacher preparation programs as perceived by teacher preparation program faculty and program deans/directors. The study also sought to identify the major barriers/challenges as perceived by teacher preparation faculty members and deans/directors in integrating CCSS elements into teacher preparation programs in West Virginia. Finally, the study investigated the impact on structural and programmatic elements of integrating the CCSS into initial teacher preparation programs. This chapter includes a description of the methods, research design, population, instrumentation, data collection, and data analysis.

RESEARCH DESIGN

This study employed a mixed-methods design that permitted the collection of quantitative and qualitative data. Johnson and Onwuegbuzie (2004) described mixed-methods designs as building on the strengths and minimizing the weaknesses of qualitative and quantitative research. A mixed-methods design also offered the benefit of flexibility (Patton, 2002). Moreover, through triangulation, data are collected by the researcher in different ways that improves accuracy (Jick, 1979).

The mixed-methods study began with a cross-sectional survey used to collect data from one group of subjects at one point in time (Fink, 2003). The one-time quantitative survey, *Faculty Survey of Common Core State Standards Integration* (Appendix B), solicited information regarding the integration of CCSS from initial teacher preparation faculty. Initial teacher preparation faculty were asked to provide perceptions of the extent to which teacher competencies related to the implementation of CCSS were

integrated into their initial teacher preparation programs. Faculty members were also asked to respond to four open-ended questions. These questions addressed the greatest barriers/challenges in integrating CCSS into their programs, support/resources that would be most helpful in aligning their program with CCSS, structural/programmatic changes currently taking place to align their program with CCSS, and structural/programmatic changes that were already planned to facilitate better alignment of their program with CCSS.

In addition to the open-ended sentences, the qualitative element of the study also consisted of a semi-structured interview with deans/directors of initial teacher preparation programs. This dimension of the study was guided by a researcher-developed interview protocol, *Teacher Preparation Deans/Directors Interview Protocol* (Appendix C). Interviewees were asked to describe the impact of CCSS integration on structural and programmatic elements in their initial teacher preparation programs. Secondly, dean/directors were asked to describe the barriers and challenges to the integration of the CCSS in their programs.

POPULATION AND SAMPLE

The population for this study consisted of the initial teacher preparation program faculty and the deans/directors of the 20 initial teacher preparation programs in West Virginia's higher education institutions. Eighteen of the 20 institutions agreed to participate in the study during the fall semester of 2014. At the time of this research, approximately 164 initial professional education faculty members were distributed across these 18 participating West Virginia teacher preparation programs. Ten of the

deans/directors or their designees from seven of the West Virginia institutions of higher education participated in the follow-up telephone interview.

For the purposes of this study, initial teacher professional education faculty were defined as “those individuals employed by a college or university, including graduate teaching assistants, who teach one or more courses in education, provide services to candidates, supervise clinical experiences, or administer some portion of the unit” (NCATE, 2008). For purposes of this study deans/directors were defined as the chief teacher education officer or their designee at each teacher preparation institution.

INSTRUMENTATION

Two instruments were utilized in this study. A researcher-developed self-report paper/pencil survey, *Faculty Survey of Common Core State Standards Integration* (Appendix B), was used to collect data from initial teacher preparation program faculty. The survey consists of three sections. Part A of the survey solicited demographic data related to the level of experience in higher and public education and the total number of years the faculty member had been teaching at their current institution. Four categories of experience (a = less than 5, b = 6-10, c = 11-15, and d = 16 or more) were provided for each type of experience. A fourth demographic question asked participants to identify the type(s) of CCSS training in which they had participated within the past year. The following choices were provided: (a = State Training, b = Institution Training, c = Institution Departmental Training, d = Personal Reading, e = Conference Attendance, f = Seminar Attendance, g = Other: Please Specify). Respondents were asked to select all of the training options that applied.

Part B of the survey contained a list of candidate competencies essential to CCSS integration and solicited perceptions of the perceived level of integration of these competencies within the initial teacher preparation programs. Twenty-two individual teacher competencies/best practices were identified by the researcher through a review of the literature and were vetted by an expert panel. The teacher competencies/best practices reflected what P-12 teachers needed to understand and demonstrate to effectively teach the CCSS. A seven-point Likert scale (1 = Little Integration, 4 = Some Integration, 7 = Significant Integration) was used for each competency.

Part C of the survey contained four open-ended questions. The questions requested respondents to identify barriers/challenges in integrating CCSS into teacher preparation programs, support/resources that would be helpful in aligning the teacher preparation program with CCSS, any structural/programmatic changes that occurred in the teacher preparation program with the integration of CCSS, and any planned structural element changes to the teacher preparation programs that are associated with the CCSS integration.

The second instrument used in the study, *Teacher Preparation Deans/Directors Interview Protocol* (Appendix C), solicited information from the deans/directors of initial teacher preparation programs regarding the level of impact of integrating CCSS on structural and programmatic elements in their initial teacher preparation programs. Questions concerning the influence of the integration of CCSS on admission standards, professional education requirements, clinical experiences, technological expectations, candidate assessments, exit requirements, resources, and faculty development were

included in the interview protocol. The instrument also solicited information regarding the barriers and challenges associated with the integration of the CCSS.

VALIDITY AND RELIABILITY

The *Faculty Survey of Common Core State Standards Integration* (Appendix B) was validated by use of expert panels. The teacher competencies portion of the survey instrument was assessed via piloting the instrument with three curriculum and instruction public school supervisors. These experts had participated in extensive CCSS training and held the responsibility within their districts for the implementation of the CCSS in their P-12 schools. The expert panelists were given the instrument to complete and were provided the opportunity to discuss the purpose and the importance of the items and offer suggestions for improvement. All agreed that the competencies listed were important to full CCSS integration. Two panelists made minor editorial suggestions. In addition, the instrument was also submitted to a panel of three higher education experts for review. The higher education experts possessed thorough knowledge of CCSS and worked with the CCSS within their teacher preparation courses. No changes were made on the instrument based on this review.

The interview protocol was reviewed by three higher education experts to validate the content of the questions. The higher education experts held extensive experience in writing interview protocols and were knowledgeable about the CCSS. Also, the experts participated in the interview and were given the opportunity to provide feedback on the protocol.

The reliability of the teacher competencies portion of the survey (Appendix B, Part B) was assessed for internal consistency using Chronbach's alpha coefficient. The

analysis resulted in the Cronbach's alpha of .95. According to Pallant (2007) for appropriate internal consistency, the coefficient value should be above .7.

DATA COLLECTION

Following modifications of the survey instruments and the interview protocol, the instrument and protocol were submitted to the Marshall University Institutional Review Board (IRB) for approval. The IRB approval was granted on August 7, 2014 (Appendix A). An initial packet containing an introductory letter (Appendix D) describing the study and requesting the number of professional education faculty within their professional education unit was sent to the deans/directors of the 20 initial teacher preparation programs in West Virginia. The introductory letter (Appendix D) explained that a packet of surveys would be mailed to the deans/directors with a request that the deans/directors distribute the survey to professional education faculty members. Copies of the study abstract (Appendix E), faculty member consent letter (Appendix F), the *Faculty Survey of Common Core State Standards Integration* (Appendix B), *Research Study Participation Form* (Appendix G), and a self-addressed, stamped envelope were included in this initial packet.

Upon receipt of the completed *Research Study Participation Forms* (Appendix G), the survey packets containing the appropriate number of surveys for the professional education faculty at each institution were mailed to the deans/directors. The survey packets also included a second letter to the deans/directors (Appendix H) requesting assistance in distributing the surveys. In the faculty member consent letter (Appendix F) attached to the survey, professional education faculty members were asked to complete the survey and return it in the envelope provided.

After the return of the surveys, deans/directors were sent an email requesting that they participate in a semi-structured telephone interview (Appendix I). Consent for the participation in the interview was obtained via email response; deans/directors were then contacted, and a time for the interview was scheduled. Interview participants were asked to respond to questions from the *Teacher Preparation Deans/Directors Interview Protocol* (Appendix C). Participant responses were transcribed.

DATA ANALYSIS

The data collected for research question one were analyzed using a one-sample t-test. Data collected for research question 2 were analyzed using an independent t-test or Analysis of Variance (ANOVA) to determine if statistically significant differences in the levels of integration existed based on selected demographic variables. Emergent category analysis was used to analyze the results from research questions 3, 4, 5, 6 and 7 (Zhang & Wildemuth, 2009). Responses were categorized by common themes, allowing emergent trends to be analyzed.

LIMITATIONS

One assumption of the study was that the participating professional education faculty and the deans/directors or their designees possessed adequate knowledge and understanding of the Common Core State Standards. Subjects were also assumed to have responded honestly to all questions.

CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

The purpose of this study was to examine the level of integration of the CCSS within West Virginia higher education initial teacher preparation programs as perceived by teacher preparation program faculty and program deans/directors. The study also sought to identify the major barriers/challenges in integrating CCSS elements into teacher preparation programs in West Virginia and to assess the impact on structural and programmatic elements of integrating the CCSS into initial teacher preparation programs. Findings presented in this chapter are organized into the following sections: (a) data collection, (b) participant characteristics, (c) major findings for each of the six research questions investigated in this study, and (d) a summary of the findings.

DATA COLLECTION

This study was a mixed-methods design that included a survey of West Virginia institution of higher education teacher preparation program faculty members and follow-up interviews with deans/directors of colleges/schools of education. Initial permission (Appendix A) was granted by the Marshall University Institutional Review Board (IRB) on August 7, 2014. Following IRB approval, packets that included an introductory letter (Appendix D), abstract of the study, faculty member consent letter (Appendix E), copy of the *Faculty Survey of Common Core State Standards Integration* (Appendix B), *Research Study Participation Form* (Appendix F), and a self-addressed, stamped envelope were sent on September 29, 2014 to the deans/directors of colleges/schools of education in the 20 West Virginia institutions of higher education. The letter introduced the study and requested the assistance of the dean/director in distributing the surveys to the appropriate teacher preparation program faculty within

their college/school of education. Beginning October 8, 2014 through December 1, 2014, packets that included a second letter (Appendix G) requesting assistance with the distribution of survey along with faculty member consent letters (Appendix E) attached to each *Faculty Survey of Common Core State Standards Integration* (Appendix B) were mailed to the deans/directors who returned the *Research Study Participation Forms* (Appendix F) and indicated that they would participate in the study. When asked to participate, 18 of the 20 institutions of higher education agreed to participate in the study. One hundred and sixty-four surveys were mailed and 74 surveys ($N = 74$) were returned. The collection of surveys ended December 15, 2014 with one additional survey received after the collection closed.

On November 19, 2014, an email (Appendix H) that requested participation in the interview portion of the study was sent to deans/directors. Follow-up emails were placed through January 5, 2015 to schedule phone interviews. Telephone interviews were conducted with 10 participants in seven institutions of higher education. The purpose of the interviews was to gain a deeper understanding of the impact of CCSS integration on initial teacher preparation programs. The telephone interview consisted of 17 open-ended questions (Appendix C) and each interview lasted approximately 30 minutes. All interviews were completed by January 30, 2015.

DEMOGRAPHIC/ATTRIBUTE DATA

In Part A of the survey, participants were asked to respond to four items that provided demographic or attribute information about respondents. A summary of respondent characteristics is provided in Table 1.

Eleven (14.9%) of respondents reported 5 or fewer years of experience in higher education, 21.6% ($n=16$) reported 6-10 years of higher education experience, 12 (16.2%) indicated 11-15 years higher education experience, and nearly half, 47.3 % ($n = 35$), reported 16 or more years of experience in higher education. When asked to identify total years of P-12 teaching experience, 31.1 % ($n = 23$) responded that they had 5 or fewer years and 29.2 % ($n = 21$) stated that they had 6-10 years of P-12 teaching experience. Ten (13.5%) indicated that they had 11-15 years of P-12 experience and 24.3% ($n=18$) responded that they had 16 or more years of P-12 teaching experience. Study participants were also asked to identify the total years of experience at their current institution of higher education. Responding faculty reported the total years of experience at their current institution as follows: 29.7 % ($n = 22$) 5 or less years, 21.6 % ($n = 16$) 6-10 years, 21.6 % ($n = 16$) 11-15 years, and 27.0 % ($n = 20$) 16 or more years.

Participants were also asked to report all types of professional development relative to the CCSS that they had experienced over the last year. Personal reading accounted for 32.4 % ($n = 55$) while 21.1 % ($n = 36$) indicated that they had participated in state training within the past year. Respondents also reported that 17.6 % ($n = 30$) attended conferences, 11.2 % ($n = 19$) attended a seminar, 11.2 % ($n = 19$) received institutional departmental training, and 6.5 % ($n = 11$) attended training provided by their institution. These data are presented in Table 2.

Table 1

Demographic/Attribute Data of Responding Teacher Preparation Faculty

Characteristic	<i>n</i>	%
Total years of higher education experience		
5 or less years	11	14.9
6 - 10	16	21.6
11 - 15	12	16.2
16 or more	35	47.3
Total years of P-12 teaching experience		
Less than 5	23	31.1
6-10	21	29.2
11-15	10	13.5
16 or more	18	24.3
Total years of experience at current institution		
5 or less years	22	29.7
6-10	16	21.6
11-15	16	21.6
16 or more	20	27.0

N = 74

Table 2

Sources of Faculty Professional Development

Characteristic	<i>n</i> *	%
Personal Reading	55	32.4
State Training	36	21.1
Conference Attendance	30	17.6
Institution Departmental Training	19	11.2
Seminar Attendance	19	11.2
Institution Training	11	6.5

N=74; *Duplicated count

MAJOR FINDINGS

Six major research questions were investigated during this study. The findings for each question are presented in the following sections. A chapter summary is also included.

Overall Level of Competency Integration

Twenty-two teacher competencies or best practices were listed in Part B of the survey. Initial teacher preparation program faculty were asked to use a Likert scale of 1-7, with 1 = Little Integration, 4 = Some Integration, and 7 = Significant Integration, to rate the extent to which each competency or best practice was integrated into their initial teacher preparation program. A one-sample t-test, comparing the sample mean for each competency to the mean score ($M = 4$) from a hypothetical normal distribution, was conducted on each of the 22 competencies. Analysis of the t-test findings yielded 18 of the 22 competencies statistically significant at $p < .05$.

A total level of competency integration score was also calculated by summing the individual responses for each of the 22 competencies. A one-sample t-test was used to compare this total mean score ($M = 107.86$) to the mean score ($CM = 66$) from a hypothetical normal distribution. The findings were statistically significant at $p < .05$.

Analysis of respondent mean scores for the 22 teacher competencies yielded three levels of responses. Four competencies had mean scores ranging from 4.11 to 4.34. Eight competencies had mean scores that fell between 4.59 and 4.96. Ten competencies had mean scores ranging from 5.14 to 6.00. These data are provided in Table 3.

Teacher competencies with means ranging from 4.11 to 4.34 included the following items: understand CCSS learning progressions ($M = 4.24, SD = 1.41$), understand the dispositions within the CCSS ($M = 4.29, SD = 1.52$), incorporate argumentative writing in lessons ($M = 4.11, SD = 1.70$) and use CCSS-aligned assessment strategies ($M = 4.34, SD = 1.52$). The analysis of the t -test results for these four competencies yielded no statistical significance.

Teacher competencies with means ranging from 4.59 to 4.96 included the following items: diagnose learning gaps ($M = 4.93, SD = 1.54, p < .05$), understand the skills within the CCSS ($M = 4.69, SD = 1.39, p < .05$), select appropriate materials to teach CCSS ($M = 4.68, SD = 1.51, p < .05$), scaffold instruction using text complexity ($M = 4.63, SD = 1.61, p < .05$), balance informational and literary texts ($M = 4.59, SD = 1.66, p < .05$), develop a comprehensive assessment process ($M = 4.93, SD = 1.52, p < .05$), design real-world learning experiences using CCSS ($M = 4.93, SD = 1.52, p < .05$), and develop lessons using academic vocabulary ($M = 4.96, SD = 1.55, p < .05$).

Teacher competencies with means ranging from 5.14 to 6.00 included: use assessments to differentiate instruction ($M = 5.19, SD = 1.39, p < .05$), participate in collaborative working culture ($M = 5.14, SD = 1.41, p < .05$), develop appropriate lessons using the CCSS ($M = 5.18, SD = 1.61, p < .05$), instruct using problem solving techniques ($M = 5.29, SD = 1.17, p < .05$), incorporate multiple types of assessments ($M = 5.75, SD = 1.16, p < .05$), create multiple types of assessments ($M = 5.41, SD = 1.57, p < .05$), use specific content-related instructional strategies ($M = 5.51, SD = 1.35, p < .05$), teach complex thinking skills ($M = 5.18, SD = 1.39, p < .05$), use higher-order thinking skills ($M = 5.41, SD = 1.21, p < .05$) and practice personal reflection to inform professional practice ($M = 6.00, SD = 1.29, p < .05$).

Level of Competency Integration by Demographic Variables

Survey participants were asked a series of demographic questions. The differences in the level of competency integration based on these selected demographic variables were examined: total years of higher education experience, total years of P-12 teaching experience, and total years at current institution. The differences were analyzed by teacher competency and by the total competency score.

A one-way between groups analysis of variance (ANOVA) was conducted to investigate the differences in level of competency integration based on total years of higher education experience for each of the 22 competencies. No significant differences in the level of competency integration based on total years of higher education experience were found for any competency or for the total teacher competency implementation score. These data are presented in Table 4.

Table 3

Level of Competency Integration in Initial Teacher Preparation Programs

Teacher Competencies/Best Practices	<i>M</i>	<i>SD</i>	<i>t-value</i>
1. Use assessments to differentiate instruction	5.19	1.39	7.32*
2. Diagnose learning gaps to inform instruction	4.93	1.54	5.17*
3. Participate in collaborative working culture	5.14	1.41	6.83*
4. Understand CCSS learning progressions	4.24	1.41	1.42
5. Understand the skills within the CCSS	4.69	1.39	4.24*
6. Understand the dispositions within the CCSS	4.29	1.52	1.62
7. Select appropriate materials to teach CCSS	4.68	1.51	3.83*
8. Develop appropriate lessons using the CCSS	5.18	1.61	6.21*
9. Instruct using problem solving techniques	5.29	1.17	9.38*
10. Scaffold instruction using text complexity	4.63	1.61	3.33*
11. Balance informational and literary texts	4.59	1.66	2.98*
12. Incorporate argumentative writing in lessons	4.11	1.70	0.56
13. Incorporate multiple types of assessments	5.75	1.16	12.87*
14. Create multiple types of assessments	5.41	1.57	7.67*
15. Develop a comprehensive assessment process	4.93	1.52	5.17*
16. Use CCSS-aligned assessment strategies	4.34	1.52	1.87
17. Design real-world learning experiences using CCSS	4.93	1.52	5.19*
18. Develop lessons using academic vocabulary	4.96	1.55	5.18*
19. Use specific content- related instructional strategies	5.51	1.35	9.49*
20. Teach complex thinking skills	5.18	1.32	7.59*
21. Use higher-order thinking skills	5.41	1.21	9.95*
22. Practice personal reflection to inform professional practice	6.00	1.29	13.24*

* $p < .05$; $CM = 4$; Scale: 1=Little Integration, 4=Some Integration, 7=Significant Integration; $N = 74$

Table 4

Level of Competency Integration by Total Years of Higher Education Experience

Teacher Competencies	<u>5 or less</u>		<u>6-10</u>		<u>11-15</u>		<u>16 or more</u>		F
	M	SD	M	SD	M	SD	M	SD	
1. Use assessments to differentiate instruction	5.00	1.67	5.44	1.20	5.83	.94	4.91	1.64	1.58
2. Diagnose learning gaps to inform instruction	4.73	1.79	4.88	1.71	5.83	1.19	4.71	1.43	1.74
3. Participate in collaborative working culture	5.36	1.75	5.19	1.68	5.25	1.13	5.00	1.27	.22
4. Understand CCSS learning progressions	4.45	1.91	4.44	1.37	4.00	1.35	4.15	1.30	.34
5. Understand the skills within the CCSS	4.73	1.49	4.94	1.48	4.42	1.24	4.67	1.41	.32
6. Understand the dispositions within the CCSS	4.36	1.86	4.69	1.40	4.08	1.44	4.15	1.52	.53
7. Select appropriate materials to teach CCSS	4.82	1.72	5.00	1.46	4.92	1.38	4.39	1.52	.76
8. Develop appropriate lessons using the CCSS	5.36	1.86	5.19	1.42	5.33	1.43	5.06	1.73	.14
9. Instruct using problem-solving techniques	5.64	.92	5.19	1.42	5.25	1.36	5.24	1.06	.38
10. Scaffold instruction using text complexity	4.91	1.58	4.80	1.78	4.17	1.64	4.64	1.56	.49
11. Balance informational and literary texts	4.00	1.90	5.00	1.73	4.50	1.57	4.65	1.58	.79

Table 4 (Continued)

Level of Competency Integration by Total Years of Higher Education Experience

Teacher Competencies	<u>5 or less</u>		<u>6-10</u>		<u>11-15</u>		<u>16 or more</u>		F
	M	SD	M	SD	M	SD	M	SD	
12. Incorporate argumentative writing in lessons	3.82	1.54	4.27	1.44	4.18	1.83	4.12	1.87	.15
13. Incorporate multiple types of assessments	5.91	1.13	6.06	.93	6.00	1.04	5.47	1.29	.28
14. Create multiple types of assessments	5.00	1.95	6.06	.93	6.00	1.04	5.03	.29	1.31
15. Develop a comprehensive assessment process	5.27	1.56	5.00	1.54	5.25	1.66	4.68	1.51	2.56
16. Use CCSS-aligned assessment strategies	4.20	1.55	4.63	1.46	4.50	1.31	4.18	1.65	.67
17. Design real-world learning experiences using CCSS	4.64	1.50	5.69	1.01	4.75	1.55	4.73	1.66	.37
18. Develop lessons using academic vocabulary	4.90	2.03	5.69	.87	5.08	1.44	4.56	1.61	2.00
19. Use specific content related instructional strategies	5.45	1.57	5.69	1.14	5.08	1.50	4.56	1.38	.14
20. Teach complex thinking skills	5.00	1.41	5.25	1.44	5.25	1.29	5.18	1.31	.09
21. Use higher-order thinking skills	5.27	1.27	5.69	.95	5.50	1.24	5.29	1.31	.44
22. Practice personal reflection to inform professional practice	5.91	1.45	6.00	.82	6.17	.94	5.97	1.55	.09

Scale: 1=Little Integration, 4=Some Integration, 7=Significant Integration; N = 74

A one-way between-group analysis of variance (ANOVA) was conducted to investigate the differences in level of competency integration based on total years of P-12 teaching experience. Differences in the level of competency integration based on total years of P-12 experience were statistically significant at $p < .05$ for 7 out of 22 competencies. No significant differences appeared in the total level of integration based on total years of P-12 teaching experience. A discussion of the seven competencies for which significant differences were found is provided in the following paragraphs. These data are presented in Table 5.

Analysis of the teacher competency, “understand CCSS learning progressions,” yielded the following results: 5 or less total years of P-12 teaching experience ($M = 3.57$, $SD = 1.60$); 6-10 total years of P-12 teaching experience ($M = 4.24$, $SD = 1.34$); 11-15 total years of P-12 teaching experience ($M = 4.30$, $SD = .48$); and 16 or more total years of P-12 teaching experience ($M = 4.89$, $SD = 1.41$). The level of integration for this competency was significantly different ($F = 3.04$, $p < .05$) based on the total years of P-12 teaching experience. The effect size, calculated using eta squared, was 0.121 or 12.1%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the five or less total years P-12 teaching experience group ($M = 3.57$, $SD = 1.60$) was significantly different from the 16 or more total years of P-12 experience ($M = 4.89$, $SD = 1.41$) group. The 6-10 total years of P-12 teaching experience ($M = 4.24$, $SD = 1.34$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 3.57$, $SD = 1.60$) group, the 11-15 total years of P-12 teaching experience ($M = 4.30$, $SD = .48$) group, or the 16 or more total years of P-12 teaching experience ($M = 4.89$, $SD = 1.41$) group. The 11-15 total years of P-12 teaching

experience ($M = 4.30$, $SD = .48$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 3.57$, $SD = 1.60$) group, or the 16 or more total years of P-12 teaching experience ($M = 4.89$, $SD = 1.41$) group.

For the teacher competency, “understand the skills within the CCSS,” the following results were calculated: 5 or less years of P-12 teaching experience ($M = 4.05$, $SD = 1.70$); 6-10 years of P-12 teaching experience ($M = 4.52$, $SD = 1.37$); 11-15 years of P-12 teaching experience ($M = 5.00$, $SD = .94$); and 16 or more years of P-12 teaching experience ($M = 5.50$, $SD = .71$). The level of integration for this competency was significantly different ($F = 4.38$, $p < .05$) based on total years of P-12 teaching experience. The effect size, calculated using eta squared, was .164 or 16.4%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the five or less total years P-12 teaching experience group ($M = 4.05$, $SD = 1.70$) was significantly different from the 16 or more total years of P-12 experience ($M = 5.50$, $SD = .71$) group. The 6-10 total years of P-12 teaching experience ($M = 4.52$, $SD = 1.37$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 4.05$, $SD = 1.70$) group, the 11-15 total years of P-12 teaching experience ($M = 5.00$, $SD = .94$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.50$, $SD = .71$) group. The 11-15 total years of P-12 teaching experience ($M = 5.00$, $SD = .94$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 4.05$, $SD = 1.70$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.50$, $SD = .71$) group.

The teacher competency, “understand the dispositions within the CCSS,” revealed the following results: 5 or less total years of P-12 teaching experience ($M = 3.64$, $SD = 1.65$); 6-10 total years of P-12 teaching experience ($M = 4.38$, $SD = 1.66$); 11-15 total

years of P-12 teaching experience ($M = 4.20$, $SD = .92$); and 16 or more total years of P-12 teaching experience ($M = 5.00$, $SD = 1.24$). The level of integration for this competency was significantly different ($F = 2.87$, $p < .05$) based on total years of P-12 teaching experience. The effect size, calculated using eta squared, was .114 or 11.4%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the five or less total years P-12 teaching experience group ($M = 3.64$, $SD = 1.65$) was significantly different from the 16 or more total years of P-12 experience ($M = 5.00$, $SD = 1.24$) group. The 6-10 total years of P-12 teaching experience ($M = 4.38$, $SD = 1.66$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 3.64$, $SD = 1.65$) group, the 11-15 total years of P-12 teaching experience ($M = 4.20$, $SD = .92$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.00$, $SD = 1.24$) group. The 11-15 total years of P-12 teaching experience ($M = 4.20$, $SD = .92$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 3.64$, $SD = 1.65$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.00$, $SD = 1.24$) group.

For “select appropriate materials to teach CCSS,” the following results were calculated: 5 or less years of P-12 teaching experience ($M = 4.09$, $SD = 1.74$); 6-10 years of P-12 teaching experience ($M = 4.52$, $SD = 1.44$); 11-15 years of P-12 teaching experience ($M = 4.90$, $SD = 1.37$); and 16 or more years of P-12 teaching experience ($M = 5.44$, $SD = 1.10$). The level of integration for this competency was significantly different ($F = 3.00$, $p < .05$) based on total years of P-12 teaching experience. The effect size, calculated using eta squared, was .119 or 11.9%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the five or less total years P-12 teaching

experience group ($M = 4.09$, $SD = 1.74$) was significantly different from the 16 or more total years of P-12 experience ($M = 5.44$, $SD = 1.10$) group. The 6-10 total years of P-12 teaching experience ($M = 4.52$, $SD = 1.44$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 4.09$, $SD = 1.74$) group, the 11-15 total years of P-12 teaching experience ($M = 4.90$, $SD = 1.37$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.44$, $SD = 1.10$) group. The 11-15 total years of P-12 teaching experience ($M = 4.90$, $SD = 1.37$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 4.09$, $SD = 1.74$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.44$, $SD = 1.10$) group.

The teacher competency, “develop appropriate lessons using the CCSS,” yielded the following results: 5 or less years of P-12 teaching experience ($M = 4.55$, $SD = 1.90$); 6-10 years of P-12 teaching experience ($M = 5.10$, $SD = 1.64$); 11-15 years of P-12 teaching experience ($M = 5.40$, $SD = .97$); and 16 or more years of P-12 teaching experience ($M = 6.06$, $SD = 1.11$). The level of integration for this competency was significantly different ($F = 3.66$, $p < .05$) based on total years of P-12 teaching experience. The effect size, calculated using eta squared, was .141 or 14.1%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 5 or less total years P-12 teaching experience group ($M = 4.55$, $SD = 1.90$) was significantly different from the 16 or more total years of P-12 experience ($M = 6.06$, $SD = 1.11$) group. The 6-10 total years of P-12 teaching experience ($M = 5.10$, $SD = 1.64$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 4.55$, $SD = 1.90$) group, the 11-15 total years of P-12 teaching experience ($M = 5.40$, $SD = .97$) group, or the 16 or more total years of P-12 teaching experience ($M = 6.06$, $SD = 1.11$) group. The 11-15

total years of P-12 teaching experience ($M = 5.40$, $SD = .97$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 4.55$, $SD = 1.90$) group, or the 16 or more total years of P-12 teaching experience ($M = 6.06$, $SD = 1.11$) group.

For the teacher competency, “balance information and literary texts,” the following results were calculated: 5 or less years of P-12 teaching experience ($M = 3.81$, $SD = 1.78$); 6-10 years of P-12 teaching experience ($M = 4.60$, $SD = 1.70$); 11-15 years of P-12 teaching experience ($M = 5.00$, $SD = 1.16$); and 16 or more years of P-12 teaching experience ($M = 5.35$, $SD = 1.41$). The level of integration for this competency was significantly different ($F = 3.21$, $p < .05$) based on total years of P-12 teaching experience. The effect size, calculated using eta squared, was .131 or 13.1%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the five or less total years P-12 teaching experience group ($M = 3.81$, $SD = 1.78$) was significantly different from the 16 or more total years of P-12 experience ($M = 5.35$, $SD = 1.41$) group. The 6-10 total years of P-12 teaching experience ($M = 4.60$, $SD = 1.70$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 3.81$, $SD = 1.78$) group, the 11-15 total years of P-12 teaching experience ($M = 5.00$, $SD = 1.16$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.35$, $SD = 1.41$) group. The 11-15 total years of P-12 teaching experience ($M = 5.00$, $SD = 1.16$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 3.81$, $SD = 1.78$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.35$, $SD = 1.41$) group.

The teacher competency, “use CCSS-aligned assessment strategies”, yielded the following results: 5 or less years of P-12 teaching experience ($M = 3.77$, $SD = 1.80$); 6-10 years of P-12 teaching experience ($M = 4.10$, $SD = 1.48$); 11-15 years of P-12 teaching

experience ($M = 4.60$, $SD = 1.35$); and 16 or more years of P-12 teaching experience ($M = 5.24$, $SD = .83$). The level of integration for this competency was significantly different ($F = 3.58$, $p < .05$) based on total years of P-12 teaching experience. The effect size, calculated using eta squared, was .140 or 14.0%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 5 or less total years P-12 teaching experience group ($M = 3.77$, $SD = 1.80$) was significantly different from the 16 or more total years of P-12 experience ($M = 5.24$, $SD = .83$) group. The 6-10 total years of P-12 teaching experience ($M = 4.10$, $SD = 1.48$) group was not significantly different from the five or less total years of P-12 teaching experience ($M = 3.77$, $SD = 1.80$) group, the 11-15 total years of P-12 teaching experience ($M = 4.60$, $SD = 1.35$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.24$, $SD = .83$) group. The 11-15 total years of P-12 teaching experience ($M = 4.60$, $SD = 1.35$) group was not significantly different from the 5 or less total years of P-12 teaching ($M = 3.77$, $SD = 1.80$) group, or the 16 or more total years of P-12 teaching experience ($M = 5.24$, $SD = .83$) group.

A one-way analysis of variance (ANOVA) was used to determine if significant differences existed in the level of teacher integration based on total years at their current institution. Differences in the level of competency integration based on total years at current institution were statistically significant at $p < .05$ for 3 out of 22 competencies. There were no significant differences in the total level of integration based on total years at current institution. A discussion of the three competencies for which significant differences were found is provided in the following paragraphs. These data are presented in Table 6.

Analysis of the teacher competency, “diagnose learning gaps to inform instruction,” yielded the following results: 5 or less total years at current institution ($M = 4.73$, $SD = 1.70$); 6-10 years at current institution ($M = 5.38$, $SD = 1.50$); 11-15 years at current institution ($M = 5.60$, $SD = 1.12$); and 16 or more years at current institution ($M = 4.30$, $SD = 1.46$). The level of integration for this competency was significantly different ($F = 2.84$, $p < .05$) based on total years at current institution. The effect size, calculated using eta squared, was .013 or 1.35%. Post hoc comparisons using the Tukey HSD test indicated that there were not significant differences between groups for this competency.

The teacher competency, “create multiple types of assessments,” yielded the following results: 5 or less total years at current institution ($M = 5.18$, $SD = 1.65$); 6-10 years at current institution ($M = 6.13$, $SD = .96$); 11-15 years at current institution ($M = 6.00$, $SD = .85$); and 16 or more years at current institution ($M = 4.65$, $SD = 1.93$). The level of integration for this competency was significantly different ($F = 3.96$, $p < .05$) based on total years at current institution. The effect size, calculated using eta squared, was .090 or 9.00%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 5 or less total years at current institution group ($M = 5.18$, $SD = 1.65$) was not significantly different from the 6-10 years at current institution ($M = 6.13$, $SD = .96$) group, the 11-15 years at current institution ($M = 6.00$, $SD = .85$) group. The 6-10 years at current institution ($M = 6.13$, $SD = .96$) group was not significantly different from the five or less years at current institution ($M = 5.18$, $SD = 1.65$) group, or the 11-15 total years of P-12 teaching experience ($M = 6.00$, $SD = .85$) group. The 6-10 years at total institution ($M = 6.13$, $SD = .96$) group was statistically different from the 16 or more

years at current institution ($M = 4.65$, $SD = 1.93$) group. The 11-15 years at current institution ($M = 6.00$, $SD = .85$) group was not significantly different from the 5 or less years at current institution ($M = 5.18$, $SD = 1.65$) group, or the 6-10 years at current institution ($M = 6.13$, $SD = .96$) group. The 16 or more years at current institution ($M = 4.65$, $SD = 1.93$) group was significantly different from the 6-10 years at current institution ($M = 6.13$, $SD = .96$) and from the 11-15 years at current institution ($M = 6.00$, $SD = .85$) group. The 16 or more years at current institution ($M = 4.65$, $SD = 1.93$) group was not significantly different from the 5 or less years at current institution ($M = 5.18$, $SD = 1.65$) group.

The teacher competency, “develop lessons using academic vocabulary,” yielded the following results: 5 or less years at current institution ($M = 5.19$, $SD = 1.54$); 6-10 years at current institution ($M = 5.38$, $SD = 1.50$); 11-15 years at current institution ($M = 5.36$, $SD = .84$); and 16 or more years at current institution ($M = 4.05$, $SD = 1.72$). The effect size, calculated using eta squared, was 1.32 or 13.2%. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the 5 or less total years at current institution ($M = 5.19$, $SD = 1.54$) group was not statistically different from the 6-10 years at current institution ($M = 5.38$, $SD = 1.50$) group, the 11-15 years at current institution ($M = 5.36$, $SD = .84$) group, or the 16 or more years at current institution ($M = 5.15$, $SD = 1.53$) group. The 6-10 years at current institution ($M = 5.38$, $SD = 1.50$) group was statistically different from the 16 or more years at current institution ($M = 4.05$, $SD = 1.72$) group. The 11-15 years at current institution ($M = 5.36$, $SD = .84$) group was not significantly different from 16 or more years at current institution ($M = 4.05$, $SD = 1.72$) group.

Table 5

Level of Competency Integration by Total Years of P-12 Teaching Experience

Teacher Competencies	<u>5 or less</u>		<u>6-10</u>		<u>11-15</u>		<u>16 or more</u>		F
	M	SD	M	SD	M	SD	M	SD	
1. Use assessments to differentiate instruction	5.05	1.56	5.14	1.56	5.60	.84	5.33	1.29	.41
2. Diagnose learning gaps to inform instruction	4.77	1.34	4.62	2.01	5.60	1.17	5.22	1.31	1.19
3. Participate in collaborative working culture	5.27	1.28	5.00	1.62	5.10	1.10	5.17	1.59	.13
4. Understand CCSS learning progressions	3.57	1.60	4.24	1.34	4.30	.48	4.89	1.41	3.04*
5. Understand the skills within the CCSS	4.05	1.70	4.52	1.37	5.00	.94	5.50	.71	4.38*
6. Understand the dispositions within the CCSS	3.64	1.65	4.38	1.66	4.20	.92	5.00	1.24	2.87*
7. Select appropriate materials to teach CCSS	4.09	1.74	4.52	1.44	4.90	1.37	5.44	1.10	3.00*
8. Develop appropriate lessons using the CCSS	4.45	1.90	5.10	1.64	5.40	.97	6.06	1.11	3.66*
9. Instruct using problem solving techniques	5.38	.92	5.05	1.53	5.50	1.43	5.39	.85	.47
10. Scaffold instruction using text complexity	4.41	1.56	4.33	1.74	4.60	1.35	5.24	1.60	1.19
11. Balance informational and literary texts	3.81	1.78	4.60	1.70	5.00	1.16	5.35	1.41	3.21*
12. Incorporate argumentative writing in lessons	3.59	1.65	4.00	1.87	4.22	1.64	4.88	1.45	1.95

Table 5 (continued)

Level of Competency Integration by Total Years of P-12 Teaching Experience

Teacher Competencies	<u>5 or less</u>		<u>6-10</u>		<u>11-15</u>		<u>16 or more</u>		F
	M	SD	M	SD	M	SD	M	SD	
13. Incorporate multiple types of assessments	5.77	1.11	5.48	1.29	5.70	1.34	6.17	.99	1.14
14. Create multiple types of assessments	5.23	1.69	5.24	1.55	5.60	1.84	5.78	1.43	.53
15. Develop a comprehensive assessment process	4.64	1.56	4.86	1.71	4.80	1.87	5.50	1.10	1.11
16. Use CCSS-aligned assessment strategies	3.77	1.80	4.10	1.48	4.60	1.35	5.24	.83	3.58*
17. Design real-world learning experiences using CCSS	4.41	1.99	4.95	1.40	4.70	1.06	5.61	.98	2.23
18. Develop lessons using academic vocabulary	4.62	1.50	5.00	1.64	4.89	1.83	5.39	1.38	.79
19. Use specific content related instructional strategies	5.36	1.36	5.29	1.52	5.44	1.51	6.00	.97	1.08
20. Teach complex thinking skills	5.09	1.15	5.14	1.56	4.80	1.75	5.50	1.04	.64
21. Use higher-order thinking skills	5.41	.96	5.48	1.25	4.90	1.66	5.61	1.24	.75
22. Practice personal reflection to inform professional practice	6.27	1.03	5.95	1.28	5.70	1.95	5.89	1.23	.54

* $p < .05$; Scale: 1=Little Integration, 4=Some Integration, 7=Significant Integration; N = 74

Table 6

Level of Competency Integration by Total Years at Current Institution

Teacher Competencies	<u>5 or less</u>		<u>6-10</u>		<u>11-15</u>		<u>16 or more</u>		F
	M	SD	M	SD	M	SD	M	SD	
1. Use assessments to differentiate instruction	5.14	1.42	5.63	1.09	5.33	1.11	4.80	1.70	1.12
2. Diagnose learning gaps to inform instruction	4.73	1.70	5.38	1.50	5.60	1.12	4.30	1.46	2.84*
3. Participate in collaborative working culture	5.32	1.37	5.50	1.37	5.07	.83	4.68	1.38	1.15
4. Understand CCSS learning progressions	4.41	1.68	4.19	1.17	4.33	1.23	4.00	1.45	.31
5. Understand the skills within the CCSS	4.82	1.47	4.75	1.29	4.86	1.10	4.40	1.60	.42
6. Understand the dispositions within the CCSS	4.32	1.59	4.50	1.27	4.43	1.34	4.00	1.81	.37
7. Select appropriate materials to teach CCSS	4.82	1.62	4.88	1.31	4.71	1.38	4.35	1.66	.46
8. Develop appropriate lessons using the CCSS	5.36	1.73	5.06	1.44	5.64	1.28	4.75	1.80	.98
9. Instruct using problem solving techniques	5.48	1.40	5.38	1.09	5.40	.99	4.95	1.10	.81
10. Scaffold instruction using text complexity	5.18	1.65	4.73	1.53	4.29	1.33	4.20	1.70	1.62
11. Balance informational and literary texts	4.55	1.82	5.00	1.51	4.77	1.48	4.21	1.72	.69
12. Incorporate argumentative writing in lessons	4.27	1.88	4.20	1.08	4.31	1.55	3.75	2.00	.43

Table 6 (continued)

Level of Competency Integration by Total Years at Current Institution

Teacher Competencies	<u>5 or less</u>		<u>6-10</u>		<u>11-15</u>		<u>16 or more</u>		F
	M	SD	M	SD	M	SD	M	SD	
13. Incorporate multiple types of assessments	5.73	1.16	6.13	.96	6.07	.80	5.25	1.41	2.23
14. Create multiple types of assessments	5.18	1.65	6.13	.96	6.00	.85	4.65	1.93	3.96*
15. Develop a comprehensive assessment process	5.14	1.70	5.13	1.36	5.27	1.39	4.30	1.53	1.61
16. Use CCSS-aligned assessment strategies	4.38	1.63	4.50	1.37	4.64	1.34	3.95	1.67	.68
17. Design real-world learning experiences using CCSS	5.23	1.41	5.06	1.53	4.86	1.35	4.55	1.76	.74
18. Develop lessons using academic vocabulary	5.19	1.54	5.38	1.50	5.36	.84	4.05	1.72	3.34*
19. Use specific content related instructional strategies	5.64	1.29	5.56	1.46	5.79	1.05	5.15	1.53	.51
20. Teach complex thinking skills	5.32	1.56	5.13	1.09	5.40	.83	4.90	1.55	1.26
21. Use higher-order thinking skills	5.64	1.09	5.38	1.09	5.67	.90	1.56	.35	.88
22. Practice personal reflection to inform professional practice	6.14	1.17	6.19	.83	6.13	.83	5.60	1.88	1.49

*p < .05; Scale: 1=Little Integration, 4=Some Integration, 7=Significant Integration; N = 74

Barriers/Challenges to CCSS Integration Identified by Faculty

Part C of the survey consisted of four open-ended questions. A summary of responses is presented in Table 7. The first open-ended question asked respondents to indicate the greatest barriers/challenges in integrating CCSS into their teacher preparation program. Of the 74 faculty participants, 62 responded (84%). Forty-one percent of the respondents reported that the lack of faculty and teacher candidate knowledge/training on CCSS was the main barrier/challenge. Two respondents commented that the West Virginia Department of Education needed to include higher education faculty in their CCSS trainings and discussions. The lack of specialized training provided by the institutions of higher education was also noted as a barrier/challenge. Respondents reported a desire for specific trainings on the basic framework of the CCSS and on how to integrate CCSS into the higher education classroom.

Since teacher candidates have limited CCSS backgrounds from their P-12 experience as students, respondents commented that teacher candidates also needed specific CCSS training. One respondent expressed, “Current teacher education majors usually had traditional surface learning experiences with little emphasis on higher order thinking and discovery learning.” Respondents also reported that teacher candidates had “no experience with project based learning or integrated subjects” and noted a “lack of practice by teacher candidates in critical thinking skills.” One respondent wrote, “Our teacher candidates express concerns about being able to implement these techniques; therefore, there is some hesitation on their part to fully embrace the CCSS” and know how to “implement them.”

Along with the lack of CCSS training for faculty and teacher candidates, 12 respondents (15.4%) reported a challenge with the P-12 CCSS implementation. One respondent wrote that the barrier/challenge was “gathering information on how local schools are implementing CCSS” while another respondent reported the “public school frustration with rapid implementation throughout districts” as a challenge of the integration of CCSS. Other challenges listed included “understanding how they will be assessed in schools” and the “negative press that resulted from the P-12 implementation.”

Nine respondents (11.5 %) listed the lack of time to incorporate the standards into the higher education classroom as well as the “time to meet to plan for and assess integration” as barriers to CCSS integration. Time was needed to “really break down standards to enable thorough understanding” and to determine the “time/place within existing scope and sequence of curriculum” to implement the CCSS.

Nine respondents (11.5%) listed a variety of other challenges and barriers. One respondent wrote, “When we place candidates in public school classrooms, there are far too many teachers who do not model the elements identified within the best practices/competencies.” Others listed the “newness” of the CCSS as a challenge as well as the challenge to add the CCSS “to all of the other material that must be covered.”

Six respondents (7.6 %) listed limited resources and materials that were aligned to the CCSS as barriers/challenges. One faculty member wrote, “CCSS aligned materials are really sub-par” while another indicated that “clearer information as to the expected practices of teachers from the West Virginia Department of Education/West Virginia Board of Education would be helpful, but is rarely presented in clearly understood ways.”

Another respondent discussed the challenge of online resources being moved or deleted, disrupting the course for the teacher and the students.

Five (6.4%) respondents indicated the lack of collaboration among institutions of higher education with their P-12 counterparts as a barrier to CCSS integration. Respondents indicated that they would like to work with P-12 teachers to plan lessons and observe how CCSS were implemented in the P-12 classroom. One respondent reported that he/she would like collaboration to be able to observe the “application of CCSS into teaching practice.” A final barrier/challenge listed by 6.4 % (n = 5) of respondents was the struggle to get the higher education faculty on board to “embrace the change” and integrate the CCSS. One respondent wrote, “We need a change in paradigm across instructors in Arts and Sciences and content areas who need to redesign courses to model CCSS and all integrated instruction and all CCSS skills.”

Table 7

Barriers/Challenges Faculty Responses

Categories of Responses	n*	%
Need for training/knowledge	32	41.0
P-12 implementation issues	12	15.4
Time	9	11.5
Lack of aligned resources and materials	6	7.7
Getting Faculty Involved	5	6.4
Lack of P-12 and higher education collaboration	5	6.4
Other	9	11.5

N=74 *Duplicated count

Needed Support/Resources for CCSS Integration Identified by Faculty

The second question on Part C of the survey asked the respondents to comment on what supports/resources would be most helpful to them when aligning their teacher preparation program to the CCSS. These data are presented in Table 8. Eighty-eight percent (n = 65) of participants answered this question. The desire for CCSS professional development was reported as a support/resource needed by 40.4 % (n = 36) of respondents.

The respondents listed a variety of formats through which the professional development could be offered: using online training, state-delivered training, conferences, and collaborative training with “Arts and Sciences faculty” attending with education faculty.” Suggested training topics listed by respondents were: “Backwards Design,” implementation in the K-12 classroom, and training on “CCSS competencies.” Three respondents listed the need for training on how CCSS affects assessment.

Twenty-one respondents (23.6%) suggested that instructional resources and models were needed for CCSS integration. Of those 21 respondents, 3 indicated that resources and models on how CCSS are assessed in the classroom would be most helpful. Others reported that they needed “research proven strategies,” access to West Virginia Department of Education resources, and a “departmental library of materials and readings.” Respondents also suggested an on-line state help-desk, easier access to performance-based CCSS questions, and suggestions for college-level and P-12 CCSS-aligned texts.

Respondents also indicated that collaboration was a necessary support/resource needed when aligning their preparation program to the CCSS. Collaboration between the

state department and the institutions of higher education as well as collaboration with P-12 schools were given as specific needs by 15.7% (n = 14) of respondents. “Being involved in the county, regional, and the West Virginia Department of Education conversations and trainings” and “sharing ideas with other IHEs” were examples of comments provided.

Ten respondents (11.2%) reported a variety of other needed supports/resources. One respondent listed the need for a universal numbering system or a translation key that would help instructors compare the CCSS to the state-adopted standards. Another respondent suggested the need for “more teachers for field experiences that teach using critical thinking/problem solving in their classrooms.”

Time was also listed as an example of a support/resource that was needed to integrate the CCSS by 9.0% (n = 8) of faculty members. Respondents listed the need for time to “make appropriate course adaptations, time needed to deliver a curriculum that supports CCSS,” and “time to work as a group to revise current curriculum and coursework.”

Table 8

Needed Support/Resources Faculty Responses

Categories of Responses	n*	%
Professional Development	36	40.4
Instructional Resources/Models	21	23.6
Collaboration among state, IHEs, P-12	14	15.7
Time	8	9.0
Other	10	11.2

N=74 *Duplicated count

Impact on Structural/Programmatic Elements Perceived by Faculty

On Part C of the survey, questions three and four were open-ended questions answered by the respondents. These data are reported in Tables 9 and 10. Fifty-eight (78%) respondents answered question three and 78% (n = 58) answered question four. Question three asked respondents what structural/programmatic changes, if any, had taken place in an effort to align their program with CCSS; question four asked respondents to indicate what additional structural/programmatic changes, if any, were planned to facilitate better alignment of their program to the CCSS.

On question three, 31 respondents (40.8%) indicated that their programs had been changed in terms of course content and curriculum. Examples of courses changed included methods courses and specific math and English content courses. In response to the integration of CCSS, respondents said that faculty members made changes in assignments by “using learning activities that model CCSS structures, vocabulary, skills and dispositions.” Also, revisions of course syllabi and “direct/explicit instruction on CCSS” had occurred. One faculty member reported that the catalyst for course changes was a state and regional CCSS meeting attended by the math and English faculty.

Fourteen respondents (18.4%) reported changes to the teacher candidate lesson plan requirements in an effort to better align the initial teacher preparation programs to the CCSS. Most West Virginia institutions of higher education require that their teacher candidates use a specific lesson plan format during their program. When teacher preparation program faculty members integrated CCSS into their courses, some programs required that CCSS be specifically noted in the teacher candidate’s lesson plans. One respondent wrote, “We teach students to instruct and write their plans according to

CCSS;” another respondent commented, “Our lesson plan format has been updated to include state, national, and Common Core standards.” Another respondent indicated that differentiation was listed as a component of their teacher candidate’s lesson plan.

Although ten respondents (13.2%) reported no current changes were taking place structurally or programmatically to integrate the CCSS, a variety of changes were mentioned by 9.2% (n = 7) of respondents. These individuals discussed possible program elimination, renaming courses, and more integration of CCSS into the writing of IEPs were noted.

According to 9.2 % (n = 7) of respondents, realigning the assessment system within some initial teacher preparation programs occurred as a result of discussions concerning how assessments should look based upon the integration of CCSS. One respondent commented that his/her program had added “required videotaping of practices for self-reflection,” while another respondent noted that his/her program had revised the “instructional observation instruments.” Aligning the assessment system with new rubrics integrating CCSS was another innovation noted by a respondent.

Four respondents (5.3%) commented that field experiences had been affected by CCSS integration. One respondent commented that all the fieldwork had been updated to contain CCSS learning goals and assessment practices and that the field experiences were specifically evaluated for CCSS integration. Others commented that discussions had occurred recently concerning what structural or programmatic elements needed to be changed.

Three respondents (3.9%) reported that the integration of CCSS had affected the professional development provided to teacher candidates. Respondents indicated either

that their program had discussed the possible addition of CCSS professional development for teacher candidates or that they had conducted specific CCSS training for teacher candidates.

Table 9

Current Structural/Programmatic Changes CCSS Faculty Responses

Categories of Responses	n*	%
Course Content	31	40.8
Candidate Lesson Plans	14	18.4
No Current Changes	10	13.2
Realigning Assessment System	7	9.2
Reviewing Field Experiences	4	5.3
CCSS Professional Development for Candidates	3	3.9
Other	7	9.2

N=74 *Duplicated count

The final question in Part C asked respondents what additional structural/programmatic changes, if any, were planned to facilitate better alignment of their initial teacher preparation program with the CCSS. Fifty-eight (78.3%) faculty members responded to the question. Twenty-three (39.0%) respondents indicated that no changes were planned for their programs.

With many of the respondents unsure as to the planned structural or programmatic changes to their programs in order to align with the CCSS, 9 respondents (15.3%) indicated that collaboration among the faculty with the institutions of higher education, between institutions of higher education in general, and collaboration with P-12 districts

in West Virginia had been planned. “Departmental review of course requirements, review of feedback data from students who are doing classroom/school observations as well as their supervising teachers,” and collaborating to update a “comprehensive scope and sequence” were specific areas listed by respondents as examples of collaborative opportunities being planned.

Nine respondents (15.3%) indicated a variety of other planned changes. Comments such as the “pilot of EdTPA and PPAT,” continued research on assessment, and “more data driven decision making” were reported.

Alterations in course content were indicated as planned changes by 11.9% (n = 7) of respondents. Respondents reported that they would be making changes to their own courses to reflect CCSS integration and that they knew of other individual faculty members who were “modifying course assignments to help students learn how to plan and provide instruction using CCSS.”

Five respondents (8.5%) indicated that structural changes were planned. Adding an assessment course to the rotation, and “splitting methods courses into .5 content and .5 pedagogy” were planned structural changes noted.

Three respondents (5.1%) answered that additional CCSS professional development was planned to help integrate CCSS in their program. One respondent commented that there would be “additional faculty participation in state and local trainings.” Another respondent answered, “We will continue to have teacher unit meetings to share and update each other through this process.”

Assessment changes were planned as indicated by 5.1% (n = 3) of respondents. Respondents indicated that there were plans to align with performance standards, to

integrate CCSS into portfolio development, and to increase CCSS into course assessments.

Table 10

Planned Structural/Programmatic Changes Faculty Responses

Categories of Responses	n*	%
No Planned Changes	23	39.0
Collaboration among IHEs and P-12	9	15.3
Course Content	7	11.9
Structure of Program	5	8.5
Additional CCSS Professional Development	3	5.1
Assessment Changes	3	5.1
Other	9	15.3

N=74 *Duplicated count

Impact on Structural/Programmatic Elements – Deans/Directors Perceptions

During the interview portion of the study, deans/directors (or their designees) of the colleges/schools of education in the West Virginia institutions of higher education were asked questions concerning the integration of CCSS in their initial teacher preparation programs. Specifically, they were asked to respond to what they had established or adjusted, if anything, in their initial teacher preparation programs with respect to admission standards, professional education requirements, clinical experiences, technological expectations, candidate assessments, and institutional resources. Ten

deans/directors or their designees participated in the interview portion of the study that represented seven institutions of higher education.

The first question that respondents answered concerned any established or adjusted admission standards in their program. The majority of the participants responded that they had raised the GPA requirements to fulfill the requirements of the Council for the Accreditation of Educator Preparation (CAEP) standards; however, all participants responded that GPA changes were not a response to the CCSS. Some respondents reported that the original 2.5 GPA within their programs was raised to a 2.75 GPA, while other respondents reported an increase from 2.5 to a 2.8 GPA. One respondent stated, “The GPA remains the same as of right now,” while several respondents discussed the scaffolding of their program’s GPA over time to get to the CAEP goal of a 3.0 GPA. One respondent mentioned that their program GPA would reach 3.0 by the 2016 academic year.

When asked if their programs had adjusted or established a national test score for program admission due to CCSS integration, all respondents commented that no changes had been made. One respondent stated, “Test scores have not been adjusted since this is determined by the West Virginia Department of Education.”

Respondents were asked if had they established or adjusted any professional education requirements in their program. The majority of the respondents answered that they had not created new courses in order to integrate CCSS. One respondent discussed how the university cap of 120 hours for the various teacher preparation programs prevented them from creating new courses for CCSS integration. Another respondent stated, “We have not implemented any new courses in a response to Common Core.”

Further, another participant stated that his/her program did “create science curriculum for elementary majors,” but created no specific courses.

Respondents were asked whether any revisions had been made in professional education courses or in the ELA or math content courses in response to the integration of CCSS. Most of the respondents answered that some revisions were made to include CCSS in individual courses. Respondents indicated that the changes were mostly made in methods classes. One dean/director stated, “Revisions have been made to professional education courses for inclusion of Common Core State Standards, including science and social studies methods courses.” The same respondent also mentioned that ELA and mathematics content methods courses were also revised to include CCSS. Yet another answered, “We have changed some things in Reading and Math, so that our students know more about the common core when they go into their clinical hours.” Therefore, while most respondents indicated that they did not create new courses in response to the integration of CCSS, all respondents indicated that CCSS were integrated in some manner within professional education or content-related courses.

Next, respondents were asked if they had established or adjusted their clinical experiences in order to integrate the CCSS into their programs; none had done so. One respondent stated that this is “harder to do” since many of the supervisors are retired teachers and have been out of the classroom for some time. Another responded that the “selection of supervisors has not changed” for his/her program.

Although all of the participants indicated that the selection of the clinical supervisors had not changed, many of them did respond that the requirements and expectations of the teacher candidates participating in the clinical experiences have

changed. With the integration of CCSS in the programs, only one respondent commented that no changes had been made. Most respondents indicated that teacher candidates were now required to indicate the appropriate CCSS on their lesson plans during the clinical experiences. One respondent stated, “The CCSS is evident in all our field placements, so incorporating them into our field experiences is seamless.” Another respondent discussed that teacher candidates teach CCSS lessons at each step of their clinical experiences. During the first two years, their teacher candidates observed more classrooms and by the second year, they were required to teach at least one CCSS lesson. By their junior and senior years, the teacher candidates taught at least two CCSS lessons during their field experiences.

Each respondent was also asked if he/she had established or adjusted technological expectations or requirements of the faculty or teacher candidates due to the integration of the CCSS. The majority of the respondents answered that technological advancements had been made in their programs to match those that teacher candidates would experience in the field. One responded that the technological expectations adjusted in their program were not directly in response to the integration of CCSS; another responded that he/she had no knowledge of any such adjustments in their program. Another respondent stated, “Adjustments have been made to include the new CCSS technological expectations in professional education courses, particularly in education 300 technology course. Teacher candidates are required to design and implement lessons with technology based on the new CCSS.” Respondents also commented that their teacher candidates are entering the programs more “tech savvy.”

Respondent reactions were varied when asked if they had established or adjusted any types of candidate assessments in their teacher preparation programs due to CCSS integration. Although one responded that no adjustments had been made to candidate assessments, another stated, “Assessments have been revised to reflect the requirements of CAEP. Sometimes this includes assessment related to the CCSS.” Some respondents discussed teacher candidate work samples that included an instructional unit created and taught using CCSS. Such units were presented as a capstone project for their programs. Other respondents spoke of teacher candidates who gathered student-learning data to upload to their teacher candidate portfolio. Also, respondents commented that rubrics and other assessments, in methods courses, were adjustments made in their programs.

Respondents were asked to what extent they had adjusted institution/program resources to reflect CCSS integration. According to most respondents, no specific monetary resources for CCSS integration in their program had been provided. One respondent answered that resources previously allocated to their program were used for CCSS integration when necessary. One respondent stated, “Faculty went to the professional development on their own, so there was no institution expense,” and another commented, “Resources have occurred with purchasing new technology and providing professional development to faculty and university supervisors.” Only one respondent stated that he/she had no knowledge of any adjustments of institution/program resources.

When respondents were asked to what extent, if any, they had adjusted faculty professional development in order to integrate CCSS into their programs, they responded that some faculty members attained professional development at the local or state level alongside P-12 teachers. Many responded that no program, nor college CCSS

professional development had been provided by their specific institutions. One respondent stated, “Yes. We developed a PLC to study this integration among our professional education faculty.” Some respondents indicated that faculty members often sought out their own professional development. A respondent stated, “We had to ask to go to state training because we were not invited.” The same respondent explained that his/her program had been allowed to send three faculty members to a statewide training at the local Regional Education Service Agency (RESA) once they had asked to participate. Another respondent mentioned that their institution offered to sponsor the RESA CCSS training and in doing so, several of the faculty members participated. Most respondents indicated that they notify faculty members when CCSS trainings are available for them to attend, but no one responded that such professional development was ever a requirement for faculty members.

Barriers/Challenges to CCSS Integration – Deans/Directors Perceptions

The interview concluded with a question that asked the respondents to discuss the barriers/challenges in integrating the CCSS into their teacher preparation programs. The respondents’ answers varied. Respondents commented that one barrier was the lack of CCSS training specifically on the process of integrating the CCSS in the classroom. Other answers included the inability to appropriately assess the standards, the lack of time for integration, inconsistent P-12 implementation, and the challenge of acquiring CCSS-aligned resources for proper integration. One respondent answered, “I’ve never been out in a classroom to teach those standards. It’s a different mindset---way of teaching.” The issue of timing was described in three ways: time for planning, time for training, and the “timing” of the integration with the changing of the state’s political

structure. One responded, “Time to plan and integrate CCSS into all courses, provide information of CCSS to content professors, and financial resources to provide effective and meaningful professional development [are needed].” With the national shift of some states dropping the use of the CCSS and the current discussions taking place within West Virginia about the use of CCSS, one respondent explained the “time” barrier/challenge for her program as “real uncertainty” since there is a “real issue with this politically in our state. What’s the new agenda going to be?”

Some respondents expressed the difficulty of inspiring every teacher program faculty member committed to commit to attend training and work to integrate the standards into courses. “It’s a tough sell. It seems like a repackaging of good teaching and we have to get people to swallow it. They are reluctant,” said one respondent. “It is difficult,” one respondent said, “to get faculty trained if they do not believe the CCSS will be around long into the future.”

SUMMARY OF FINDINGS

The purpose of this chapter was to present data gathered for a study examining the level of integration of the CCSS within West Virginia higher education initial teacher preparation programs as perceived by teacher preparation program faculty members and program deans/directors. In general, initial teacher preparation program faculty members described their level of integration of the selected teacher competencies as being between “some” and “significant” integration on a scale of 1-7. Of the 22 teacher competencies, the lowest mean score was 4.24 and the highest mean score was 6.00. Results from a one-sample *t*-test were found to be significant ($p < .05$) for 18 out of the 22 competencies and

for the total competency score when the observed mean scores were compared to mean scores from a hypothetical normal distribution.

The level of integration of the teacher competencies was analyzed via a one-way ANOVA to investigate if significant differences existed based on selected demographics. Overall, few significant differences were found based on demographics. Seven teacher competencies were significant based on differences in total years of P-12 teaching experience. Two teacher competencies were found to be significant based on total years at current institution. No significant differences were found for any teacher competency based on years of higher education experience. Also, no significant differences appeared in the total level of integration score for teacher competencies based on any of the demographic variables.

Findings from the survey's open-ended questions provided additional data regarding the impact of the level of integration of CCSS as perceived by the initial teacher preparation faculty. The lack of training/knowledge of the CCSS was cited as a barrier/challenge by 36.6 % of respondents and the need for professional development was noted by 36.7% as a needed resource/support. Course content was listed by 24.2% of respondents as a current structural/programmatic change and 30.7% answered no structural/programmatic changes we planned in their programs.

Findings from the follow-up telephone interviews with deans/directors produced additional data on structural and programmatic elements. Overall, respondents indicated an increase in GPA as an admission requirement that stemmed from CAEP rather than CCSS. While no respondent commented that creation of classes occurred as a result of CCSS integration, most respondents answered that the content within the methods and

the ELA and math content course syllabi had been changed to address CCSS. Most respondents answered that clinical experiences contained CCSS-based lesson plans and that teacher candidates were required to teach CCSS-based units in their clinical experiences. Technological adjustments had been made to reflect what the students would see in their clinical experiences according to most respondents. Some respondents discussed teacher work samples containing CCSS being uploaded into teacher candidate portfolios as a part of adjustments in candidate assessments. Also, deans/directors commented that additional institutional resources had not been given to institutions to integrate the CCSS.

Deans/directors also reported perceived barriers and challenges to CCSS integration. Overall, respondents discussed the lack of CCSS professional development for program faculty. However, a few respondents indicated that a few of their program faculty attended some state training, worked in department PLCS, or personally sought professional development on CCSS. Also, a few deans/directors spoke of the inconsistent P-12 implementation, politics, and getting faculty involved with the CCSS integration as further barriers/challenges.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

This chapter reviews the purpose of the study, demographic data, and data collection. The chapter also presents a summary of the findings. A presentation of the study conclusions, discussion of implications, and recommendations for further research complete the chapter.

PURPOSE OF THE STUDY

The purpose of the study was to examine the level of integration of the CCSS within West Virginia higher education initial teacher preparation programs as perceived by teacher preparation faculty and program deans/directors. The level of integration of the teacher competencies/best practices was also examined for differences based on selected demographic variables. In addition, this study sought to identify the major barriers/challenges in integrating CCSS elements into teacher preparation programs in West Virginia as perceived by teacher education program faculty and deans/directors. Finally, the study sought to assess the impact of integrating the CCSS into initial teacher preparation programs on structural and programmatic elements of teacher preparation programs. The following research questions were investigated:

1. What is the level of integration of teacher competencies essential to implementing the CCSS in initial teacher preparation programs, as perceived by initial teacher preparation faculty, in West Virginia institutions of higher education?
2. What are the differences, if any, based on selected demographic variables, in the level of integration of teacher competencies essential to implementing the CCSS in initial teacher preparation programs, as perceived by initial teacher preparation program faculty in West Virginia institutions of higher education?

3. What are the major barriers/challenges, as perceived by initial teacher preparation faculty, in integrating CCSS into initial teacher preparation programs in the West Virginia institutions of higher education?
4. What are the major supports/resources needed, as perceived by initial teacher preparation faculty, in integrating CCSS into initial teacher preparation programs in the West Virginia institutions of higher education?
5. What is the impact, if any, of the integration of the CCSS on structural and programmatic elements of initial teacher preparation programs, as perceived by initial teacher preparation faculty?
6. What is the impact, if any, of the integration of the CCSS on structural and programmatic elements of initial teacher preparation programs, as perceived by deans/directors?
7. What are the major barriers/challenges, as perceived by initial teacher preparation deans/directors, in integrating the CCSS into initial teacher preparation programs in West Virginia's institutions of higher education?

DATA COLLECTION

This study was completed using a mixed-methods design. Quantitative data were collected utilizing a cross-sectional design survey model. Data were also collected via telephone interview. The population for this study was full-time initial teacher preparation program faculty members and deans/directors (or their designees) of schools/departments of education within the West Virginia institutions of higher education. At the time of this study, West Virginia had 20 institutions of higher education with initial teacher preparation programs (West Virginia Department of

Education, 2013a). Eighteen institutions agreed to participate in the study.

Approximately 164 initial teacher preparation faculty members were associated with these 18 participating institutions, as indicated by the deans/directors on the Research Study Participation Form (Appendix F).

Ten deans/directors from seven of the institutions of higher education participated in the follow-up telephone interview. The purpose of the interviews was to gain a deeper understanding of the impact of the CCSS integration on the initial teacher preparation programs. The interviews consisted of 17 open-ended questions (Appendix C), and each lasted approximately 30 minutes.

The survey instrument (Appendix B) was distributed to the 164 full-time initial teacher preparation faculty members in the 18 participating institutions in a paper/pencil format. Survey responses were received from 74 faculty members. Mean scores were calculated for the total level of competency integration. One sample t-tests were used to determine if significant differences existed between the observed means and the expected means in a deviation from the hypothetical normal distributions. A one-way analysis of variance was used to determine if significant differences existed in the level of teacher competency integration based on selected demographic variables.

SUMMARY OF FINDINGS

Nearly half (47.3 %) of respondents reported 16 or more years of higher education experience. Twenty-three respondents had 5 or fewer years of P-12 teaching experience. Half of the respondents (51.3%) reported 5 or less years at their current higher education institution.

Overall, faculty members reported levels of competency integration between “some” and “significant.” Overall, few significant differences were found based on demographics. Seven teacher competencies were significant based on differences in total years of P-12 experience and two competencies were significant based on total years at current institution. No significant difference was found based on higher education experience or on the total level of integration score for teacher competencies based on any of the demographic variables.

Findings from the four open-ended questions produced additional data regarding the level of integration of CCSS. A major barrier/challenge reported by faculty respondents was the lack of CCSS professional development. Course content was listed by 24.2% of faculty respondents as a current structural/programmatic change, but 30.7% reported no planned structural/programmatic changes for their programs.

Findings from the follow-up telephone interviews with deans/directors also yielded additional data regarding the level of CCSS integration. Overall, deans/directors indicated that they had increased the GPA as an admission requirement. This increase, however, may have been influenced more by CAEP standards than CCSS. Creation of new classes to support CCSS integration in initial teacher preparation programs was not evident. Content revisions within the methods courses and within the ELA and math content courses were reported and syllabi had been changed to address CCSS in some programs. Overall, deans/directors reported that clinical experiences had been modified to contain CCSS-based lesson plans. Teacher candidates were now required to use CCSS based units in their clinical experiences. Technological adjustments reflected what the students utilized in their clinical experiences according to most respondents. Teacher

work samples containing CCSS were being uploaded into teacher candidate portfolios as a part of adjustments in candidate assessments. Respondents commented that additional institutional resources have not been given to institutions to integrate the CCSS.

Overall, deans/directors reported the lack of CCSS professional development for program faculty as one of the challenges/barriers to CCSS integration. The inconsistency of P-12 integration, the political policies, and getting faculty involved with the CCSS integration emerged as other barriers/challenges.

CONCLUSIONS

Data collected as part of this study were sufficient to support the following conclusions:

Research Question One: Levels of Integration

Overall, faculty reported that the competencies essential to implementing the CCSS had been integrated into their initial teacher preparation programs at levels between “some” and “significant”. Eighteen of the 22 competencies were significant when compared to the hypothetical normal distribution and had been integrated at a level between “some” and “significant” ($M = 4$). The same pattern held for the total level of integration ($M = 107.86$, $SD = 22.81$).

Research Question Two: Differences in Levels of Integration

Total Years of Higher Education Experience. No statistically significant differences in the levels of integration were found for any of the 22 individual competencies based on the total years of higher education experience. This same pattern was also true for the total level of integration.

Total Years of P-12 Teaching Experience. Even though seven competencies were found to be significantly different in the levels of integration based on the total years of P-12 teaching experience, overall, the total years of P-12 experience did not affect the level of integration for the individual competencies. This same pattern was also true for the total level of integration.

Total Years of Experience at the Current Institution. Although three competencies were found to be significantly different in the levels of integration based on the total years at the current institution, overall, the total years of experience at the current institution did not affect the level of integration for individual competencies. This same pattern was true for the total level of integration.

Research Question Three: Barriers/Challenges as Perceived by Faculty

Overall, the need for training and knowledge was the most frequent barrier/challenge to integrating CCSS reported by initial teacher preparation faculty members. To a lesser extent, participants also identified time, lack of aligned resources and materials, getting the faculty involved, and lack of collaboration between P-12 and higher education as other barriers/challenges to integrating CCSS.

Research Question Four: Supports/Resources Needed as Perceived by Faculty

Overall, professional development was the most frequent necessary support/resource for the integration of CCSS identified by the initial teacher preparation faculty. To a lesser extent, faculty also acknowledged the need for instructional resources/models and collaboration among the institutions of higher education, P-12, and the state department of education as other supports/resources needed to help integrate the CCSS.

Research Question Five: Structural/Programmatic Changes as Perceived by Faculty

In general, the most frequently reported structural/programmatic changes within initial teacher preparation programs reported by faculty members were changes in course content. To a lesser extent, they identified modifications in candidate lesson plans, realignment of assessment systems, review of field experiences, and CCSS professional development for candidates as other structural/programmatic changes made to integrate CCSS within their initial teacher preparation programs. Generally, respondents did not identify additional structural/programmatic changes planned for integrating CCSS into their initial teacher preparation program.

Research Question Six: Structural/Programmatic Changes as Perceived by Deans/Directors

Overall, deans/directors identified the revisions of content course syllabi, adjustments to field experience expectations of teacher candidates, and the inclusion of work samples in teacher candidate assessments as the most frequent structural/programmatic changes made in their programs. To a lesser extent, deans/directors also reported adjustments in GPA admissions criteria and updated technological capacities that mirror candidate field experience placements as other structural/programmatic changes.

Research Question Seven: Barriers/Challenges as Perceived by Deans/Directors

Overall, the most frequently reported barrier/challenge to integrating CCSS reported by the deans/directors was the lack of CCSS training. Less frequently, deans/directors noted the inability to appropriately assess the CCSS, the lack of time for

integration, and the challenge of acquiring CCSS-aligned resources as barriers/challenges to integrating CCSS. They also noted the difficulty of inducing every teacher preparation faculty member to commit to attend training and to work to integrate the standards within their courses as another barrier/challenge.

DISCUSSION AND IMPLICATIONS

The following discussion of implications is organized into eight sections. Section one addresses levels of integration and section two pertains to differences in integration levels based on demographics, section three relates to the barriers/challenges to CCSS integration as perceived by the faculty members, and section four pertains to the supports/resources needed as perceived by faculty. The fifth section relates to structural/programmatic changes as perceived by faculty members; section six addresses the structural/programmatic changes necessary to integrate the CCSS as perceived by the deans/directors. Section seven relates to the barriers/challenges to CCSS integration as perceived by deans/directors. The final section provides a summary of the implications.

Levels of Integration

Overall, West Virginia's teacher preparation programs appear to be addressing the CCSS as program faculty reported between "some" and "significant" levels of integration of the selected teacher competencies/best practices. The one-sample *t*-tests used to compare the level of integration means for each teacher competency and for the total level of integration means for the comparable hypothetical normal distributions revealed significant differences for the total integration score and 18 of the 22 teacher competencies. For teacher candidates to be able to implement the CCSS in P-12 schools, research suggests that teacher preparation programs must integrate CCSS into their

programs (Walsh & Riddell, 2013). One way that the West Virginia institutions of higher education are supporting CCSS integration is through the teacher preparation program accreditation process. The West Virginia Board of Education announced in the fall of 2014 that for teacher preparation programs to be state approved, the institutions must acquire CAEP accreditation as part of the state approval process (West Virginia Department of Education, 2014a).

The Council for Accreditation of Educator Preparation (2013) has also supported the need for specific teacher competencies/best practices for effective CCSS integration. The teacher competencies/best practices rely on sound instructional practices. Once teachers understand the basics of the CCSS by grade level, they must be trained in specific instructional strategies for full standards integration. Within the InTASC Standard 8, teachers are required not only to articulate, but also apply a variety of instructional strategies (Council for Accreditation of Educator Preparation, 2013). Integrating CAEP requirements in the professional preparation programs leads to deeper understandings of content and skills in P-12 learners.

With West Virginia's recent announcement of the adoption of CAEP Standards as a means for accreditation for West Virginia's initial teacher preparation programs, teacher candidate completers must demonstrate the skills related to CCSS (Council for the Accreditation of Educator Preparation, 2013; West Virginia Department of Education, 2014b). In order to assure that CAEP Standard 1 is achieved, teacher preparation faculty must also demonstrate the knowledge and skills sufficient to instruct the CCSS. Study findings suggest that the initial teacher preparation programs have accomplished some

integration of the teacher competencies, but may need further assistance to achieve full CCSS integration.

Differences in Demographics

While the total years of P-12 experience do not significantly demonstrate an effect on the level of integration of teacher competencies, a pattern appeared in the study findings that suggests a difference in the mean scores for the teacher competencies between those faculty who reported 5 or less years of P-12 teaching experience and those who reported 16 or more years of P-12 teaching experience. For each of the 22 competencies, the mean scores for higher levels of P-12 experience were greater than those with lower levels of P-12 experience.

These differences are seen across the two categories of 5 or less years of P-12 experience and 16 or more years of P-12 experience for the 22 teaching competencies, but the pattern is not significant overall. The differences seen across the two categories may be attributed to the experience gained by more veteran P-12 teachers that provides them with the deeper knowledge and skills of certain instructional practices over time leading to increased teacher effectiveness. Research on teacher experience affecting teacher effectiveness varies. Goldhaber (2002) and Winters (2011) have suggested that even though a positive relationship exists between years of experience and teacher effectiveness, the effectiveness overall seems to plateau after year five. In contrast, Huang (2009) and Carroll and Foster (2011) have argued that additional years of teaching experience up to 21 years of experience increase teacher effectiveness. Additional research may be necessary to investigate if the total years of P-12 experience of initial teacher preparation faculty members increase effective integration of CCSS.

Barriers/Challenges as Perceived by Faculty

The lack of faculty and teacher CCSS knowledge and training was the barrier/challenge listed by the largest number of respondents. One of the major CCSS integration challenges is professional development. A recent Center on Education Policy (2013) study, suggested that providing the appropriate level of quality and quantity of professional development for teachers on the CCSS remained the greatest barrier/challenge to integrating CCSS. Scholastic & the Bill & Melinda Gates Foundation (2014) supported these results by their study's finding that 84% of participants listed professional development as a "critical" need to implement the CCSS (p. 16).

Study findings also suggest that faculty members believe other barriers/challenges to CCSS integration are P-12 integration, time, lack of aligned resources and materials, getting the faculty involved, and lack of collaboration between P-12 and higher education. Since P-12 integration across the United States has varied (ASCD, 2012; Center on Education Policy, 2012; National Governors Association Center for Best Practices & Council of Chief State School Officers, n.d.), this inconsistency creates a possible barrier/challenge for institutions of higher education to integrate CCSS effectively. If teacher candidates are not able to practice CCSS skills during field experiences due to lack of P-12 integration, the teacher preparation programs that have integrated the CCSS into their programs cannot build a quality field experience for their teacher candidates. For example, West Virginia was reported as one state among seven with clear plans for CCSS integration (Education First and Editorial Projects in Education Research Center, 2012). These findings are partially supported by the results of the 2014 Primary Sources

study which found that 78% of the teachers reported the lack of planning time affecting the integration of CCSS in the P-12 system (Scholastic & Bill & Melinda Gates Foundation, 2014). Further, teachers cited that time was needed to locate and analyze resources and materials for CCSS integration as well as to collaborate with others for effective implementation (Scholastic & Bill & Melinda Gates Foundation, 2014).

Supports/Resources Needed as Perceived by Faculty

Initial teacher preparation faculty members reported most frequently that professional development was a necessary resource/support for CCSS integration. Less frequently, the respondents also listed the need for instructional resources/models, collaboration among the state department of education, the institutions of higher education and P-12, and the need for additional time. Apparently, both the quantity and the quality of professional development are important for CCSS integration. Dunkle (2012) suggested that professional development that occurs in collaboration with others increases teacher knowledge, understanding, and implementation in the classroom. Such professional development in professional learning communities allows teachers collective time to share knowledge, resources and instructional techniques to support students (Brooks & Dietz, 2013; Heitin, 2014; Pipkin, 2013). Because the faculty has identified the need for CCSS professional development and research supports the success of professional development in a collaborative setting, more studies concerning the impact of PLCs on higher education professional development may be beneficial to the integration of CCSS.

Structural/Programmatic Changes as Perceived by Faculty

Initial teacher preparation faculty members reported that course content changes were the most frequent changes that had occurred in order to integrate CCSS into their programs. With the West Virginia CAEP accreditation mandate, it seems reasonable for faculty members to adjust their own content courses to meet the needs of teacher candidates who will be teaching the CCSS. Examples found within the study revealed that methods courses and specific math and English content courses were currently being revised. Jones and King (2013) supported the need for higher education institutions to adjust their program and structural elements for the integration of CCSS. In addition, Finn and Petrilli (2010) asserted that teacher preparation programs have been called to increase the rigor of content mastery of teacher candidates as a response to CCSS implementation. According to the National Comprehensive Center for Teacher Quality, 32 states have mandated alignment of the content specific coursework to CCSS (Perry, 2011). While West Virginia has not yet taken this step, findings from this study illustrate that through the CAEP accreditation process, content course changes are occurring in programs.

Structural/Programmatic Changes as Perceived by Deans/Directors

Deans/directors reported that the most frequent structural/programmatic change in their programs was to increase the GPA requirement for admission. For example, deans/directors reported that the increase in GPA was not necessarily a response to the integration of CCSS, but was rather a result of the requirements in the 2013 CAEP standards. According to CAEP Standard 3, only teacher candidates that have a minimum of a 3.0 GPA may be admitted in the year 2020 (Council or the Accreditation of Educator

Preparation, 2014). Walsh and Riddell (2013) supported changes in teacher preparation admission standards for effective CCSS integration, even deeming them as fundamental changes. Since expectations for college-and-career readiness as defined by CCSS can now be clearly articulated, an increase in successful entrance to credit-bearing courses should result (Jones & King, 2012). Due to this success, teacher preparation programs should also see an improved overall ability of teacher candidates to succeed in their admission to candidacy (Jones & King, 2012).

Overall the study findings suggest that while deans/directors reported no new courses were created as a response to CCSS integration revisions were made within content courses. This finding directly supports the reported structural/programmatic findings of the faculty members. Such actions would seem to be supported by other research, such as the claim that programs aligned with the CCSS produce teachers better prepared to successfully teach their students using the CCSS (Jones & King, 2012). Since deans/directors also reported a lack of funding for CCSS integration, revising current courses instead of creating new ones for CCSS integration may have been the most financially realistic structural/programmatic option for participating higher education institutions to influence curriculum and instruction.

The study also revealed that while no adjustments in the selection of supervising teachers in the teacher preparation programs' clinical experiences, adjustments in the expectations for the teacher candidates did change. The most frequent adjustment reported was the requirement of teacher candidates to complete lesson plans using the appropriate CCSS. Although the National Governor's Association has suggested the requirement for teacher preparation programs to emphasize CCSS mastery in the clinical

experiences, field experiences vary from institution to institution (Grossman, Reyna, & Shipton, 2011; Perry, 2011). Requiring teacher candidates to plan lessons using the CCSS, correlates with the NCTQ assertions that the clinical experience affords teacher candidate the opportunity to practice their skills and knowledge while they receive feedback and guidance (Greenberg et al., 2011).

The deans/directors indicated that the technology adjustments in the initial teacher preparation programs were made to align with the technology the teacher candidates would experience in the field. The CCSS requires students to master certain technological skills (McLaughlin & Overturf, 2012). In order for students to gain the necessary skills to be college-and-career ready, teacher preparation programs must also address the technology skills of their teacher candidates. CAEP standards require that program completers must demonstrate technology skills in Standard 1, and CAEP also specifically requires teacher candidates to design and assess learning experiences that improve student learning and lead to stronger professional practice (Council for the Accreditation of Educator Preparation, 2013). Using technology in the teacher preparation programs that matches the technology in P-12 schools, coupled with the necessary CCSS content knowledge, will help prepare teacher candidates to teach students the necessary technology skills.

Another suggested area for teacher preparation programs to make structural/programmatic adjustments for CCSS integration is in the candidate assessments. The deans/directors indicated that assessments have been adjusted to include teacher candidate work samples. Such work samples reflect the study findings that the clinical experiences have been adjusted to require the use of the CCSS in teacher candidate lesson

plans. Further, the lesson plans affect the teacher candidates in field experiences. Educational Testing Service (2013) has developed assessments used in 40 states and has recently collaborated with 16 states to develop performance-based assessments. The new assessment is an electronic portfolio where artifacts such as teacher work samples can be organized to give a clear picture of the teacher candidate's performance. Study findings suggest that the use of teacher work samples reported by the deans/directors as an adjustment in the candidate assessment process aligns with a portion of the new Educational Testing Service candidate assessment.

The deans/directors reported that no specific institution/program budgetary resources had been provided to support integration of the CCSS. In fact, some states have decreased integration activities due to funding cuts (Rothman, 2014). Bestowing no funding for specific structural/programmatic changes ties the hands of the deans/directors and leaves the integration of CCSS to the willingness of individual faculty members to seek out their own professional development, thus hindering the full integration process.

In the demographic portion of the study, faculty members were asked to identify what type of professional development (if any) they had received in the past year relative to the CCSS. Overall, the faculty members listed personal reading and state training as their two primary sources of professional development. Institutionally-supported training was the least frequent type of CCSS professional development available. Consistent with the issue of no designated funding for structural/programmatic changes, the deans/directors consistently responded that no college nor program CCSS professional development opportunities had been provided by their specific institutions. The deans/directors did indicate that some faculty had chosen to attend professional

development provided by the state or local agencies to help with the integration of CCSS in the teacher preparation programs, and this statement is consistent with the faculty member's characterization of the type of professional development they have received. The typical professional development needed by 65% of the P-12 teachers in the Scholastic & Bill & Melinda Gates Foundation (2014) study was focused on the standards' content with 64% listing the need for training in the incorporation of CCSS across the disciplines. The 2014 Primary Sources study revealed that even though 57% of the P-12 teachers responding received professional development on the topic of CCSS instructional shifts from the school, district, or state, 39% sought their own professional development (Scholastic & Bill & Melinda Gates, 2014). Additional research investigating the various CCSS professional development processes may help inform institutions as to which processes positively affects CCSS integration in initial teacher preparation programs.

One way that teacher preparation faculty and P-12 teachers can gain professional development is in collaboration with each other. An example is The Math Teacher Education Partnership that consists of 38 teams that are aligning math teacher preparation programs to the CCSS (Association of Public and Land-Grant Universities, 2011). Udall (2013) suggested that teaching is not a profession that thrives in isolation, therefore a collegial culture between teacher preparation institutions and P-12 schools will not only create professional development opportunities to effect the integration of CCSS, but also will foster a more robust clinical experience opportunity for teacher candidates (Robinson, 2014). Additional research with a population that has received whole-college or whole-

department CCSS professional development may be beneficial to determine the effects of institutional training on the implementation of CCSS.

Barriers/Challenges as Perceived by Deans/Directors

Much like faculty, the deans/directors most frequently indicated the lack of CCSS training as their greatest barrier/challenge. With the lack of institution/program funding to integrate the CCSS, deans/directors must rely on initial teacher preparation faculty to attend local or state trainings or seek out personal professional development on the CCSS. Without proper professional development, the alignment of coursework with the CCSS remains difficult for teacher preparation programs, thus creating additional barriers/challenges (Center on Education Policy, 2013).

RECOMMENDATIONS FOR FURTHER RESEARCH

This study examined the level of integration of the CCSS within West Virginia higher education initial teacher preparation programs as perceived by teacher preparation faculty and program deans/directors. The study also sought to identify the major barriers/challenges as perceived by teacher preparation faculty and deans/directors integrating CCSS elements into their teacher preparation programs in West Virginia. Finally, this study investigated the impact on structural and programmatic elements of integrating the CCSS into initial teacher preparation programs. Based on study findings, the following recommendations for further research are provided:

1. This study focused on the teacher preparation program faculty of West Virginia's institutions of higher education. Expanding this study to include a larger population such as teacher preparation faculty in adjacent states may provide additional data that would

support general conclusions and implications regarding the implementation of CCSS across other states.

2. This study focused on initial teacher faculty members' professional development relative to the CCSS. Expanding the study to include the effects of the various types of professional development on the level of integration of teacher competencies on CCSS implementation would provide a useful comparison between the types of professional development and the impact on the level of integration.
3. This study focused on the level of integration of teacher competencies on CCSS implementation in initial teacher preparation programs. Expanding the study to include the level of integration of CAEP standards would provide a comparison between levels of integration and their impact on the CCSS implementation.
4. This study focused on the level of integration of teacher competencies, not assessment of those competencies. A study investigating the relationship between teacher competency integration and assessment of the competencies would also yield valuable information.
5. This study focused on current and planned structural and programmatic element adjustments. Expanding the study to investigate the level of CCSS implementation based on the structural and programmatic elements would yield valuable information that could be shared with other institutions of higher education.

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APPENDIX A
IRB APPROVAL LETTER



w w w . m a r s h a l l . e d u

Office of Research Integrity
Institutional Review Board
401 11th St., Suite 1300
Huntington, WV 25701

FWA 00002704
IRB1 #00002205
IRB2 #00003206

August 7, 2014

Ron Childress, Ed. D.
College of Education and Professional Development

RE: IRBNet ID# 639276-1
AT: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Childress:

Protocol Title: [639276-1] Common Core Integration

Expiration Date:	August 7, 2015	
Site Location:	MUGC	
Submission Type:	New Project	APPROVED
Review Type:	Exempt Review	

In accordance with 45CFR46.101(b)(2), the above study and informed consent were granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee for the period of 12 months. The approval will expire August 7, 2015. A continuing review request for this study must be submitted no later than 30 days prior to the expiration date.

This study is for student Georgia Thornton.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Bruce Day, ThD, CIP at 304-696-4303 or day50@marshall.edu. Please include your study title and reference number in all correspondence with this office.

APPENDIX B
INSTRUMENT

Faculty Survey of Common Core State Standards Integration

Part A: Faculty Information—Please select the option that best describes your experience:

1. Total years of higher education experience (check one)

- a. less than 5
- b. 6-10
- c. 11-15
- d. 16 or more

2. Total years of P-12 teaching experience (check one)

- a. less than 5
- b. 6-10
- c. 11-15
- d. 16 or more

3. Total years of experience at current institution (check one)

- a. less than 5
- b. 6-10
- c. 11-15
- d. 16 or more

4. Within the past year, what professional development have you experienced relative to the Common Core State Standards (check all that apply)

- a. State training
- b. Institution training
- c. Institution Departmental training
- d. Personal reading
- e. Conference attendance
- f. Seminar attendance
- g. Other (Please specify: _____)
- h. None

Part B: Teacher Competencies Present in Initial Teacher Preparation Programs—
 Following is a list of teacher competencies or best practices that teachers need to know and be able to perform to effectively implement the Common Core State Standards in P-12 classrooms. Using the scale provided, circle the response that best describes **the extent to which each of these competencies or best practices are integrated in your initial teacher preparation program:**

Scale:

1=Little Integration

2

3

4=Some Integration

5

6

7=Significant Integration

1=Little Integration 4= Some Integration 7=Significant Integration

Candidate Competencies/Best Practices

1. Use assessment to differentiate instruction	1	2	3	4	5	6	7
2. Diagnose learning gaps to inform instruction	1	2	3	4	5	6	7
3. Participate in a collaborative working culture	1	2	3	4	5	6	7
4. Understand CCSS learning progressions	1	2	3	4	5	6	7
5. Understand the skills within the CCSS	1	2	3	4	5	6	7
6. Understand the dispositions within the CCSS	1	2	3	4	5	6	7
7. Select appropriate materials to teach CCSS	1	2	3	4	5	6	7
8. Develop appropriate lessons using the CCSS	1	2	3	4	5	6	7
9. Instruct using problem solving techniques	1	2	3	4	5	6	7
10. Scaffold instruction using text complexity	1	2	3	4	5	6	7
11. Balance informational and literary texts	1	2	3	4	5	6	7

12. Incorporate argumentative writing in lessons	1	2	3	4	5	6	7
13. Incorporate multiple reading strategies	1	2	3	4	5	6	7
14. Create multiple types of assessments	1	2	3	4	5	6	7
15. Develop a comprehensive assessment process	1	2	3	4	5	6	7
16. Use assessment strategies in the classroom	1	2	3	4	5	6	7
17. Build real-world learning experiences using the CCSS	1	2	3	4	5	6	7
18. Develop lessons using academic vocabulary	1	2	3	4	5	6	7
19. Use specific content related instructional strategies	1	2	3	4	5	6	7
20. Teach complex thinking skills	1	2	3	4	5	6	7
21. Use higher-order questioning skills	1	2	3	4	5	6	7
22. Practice personal reflection to inform professional practice	1	2	3	4	5	6	7

Part C: Please respond to the following questions:

1. What are your greatest barriers/challenges in integrating CCSS into your teacher preparation program?
2. What support/resources would be most helpful to you in aligning your teacher preparation program with CCSS?
3. What structural/programmatic changes, if any, have taken place in an effort to align your program with CCSS?
4. What additional structural/programmatic changes, if any, are planned to facilitate better alignment of your program with CCSS?

APPENDIX C
INTERVIEW PROTOCOL

Teacher Preparation Deans/Directors Interview Protocol

Admission Standards

1. To what extent, if any, have you established/adjusted minimum content GPA requirements for the initial teacher preparation program in your institution?
2. To what extent, if any, have you established/adjusted minimum professional education GPA requirements for the initial teacher preparation program in your institution?
3. To what extent, if any, have you established/adjusted national test scores for entrance into your initial teacher preparation program?

Professional Education Requirements

4. To what extent, if any, have you created new courses to the initial teacher preparation program in order to fully implement the Common Core State Standards?
5. To what extent, if any, have you revised professional education courses in the initial teacher preparation program in order to align with the Common Core State Standards?
6. To what extent, if any, have you revised the content of courses in the initial teacher preparation program to include the ELA Common Core State Standards?
7. To what extent, if any, have you revised the content of courses in the initial teacher preparation program to include the Math Common Core State Standards?

Clinical Experiences

8. To what extent, if any, have you adjusted the selection and preparation of supervising professors in clinical experiences in the initial teacher preparation program in response to the CCSS implementation?
9. To what extent, if any, have you adjusted the requirements and the expectations of the clinical experiences in the initial teacher preparation program in response to the CCSS implementation?

Technological Expectations

10. To what extent, if any, have you established/adjusted the technological expectations or requirements of your faculty in the initial teacher preparation program in response to the CCSS implementation?
11. To what extent, if any, have you established/adjusted the technological expectations or requirements of your teacher candidates in the initial teacher preparation program in response to the CCSS implementation?

Candidate Assessments

12. To what extent, if any, have you adjusted the types of candidate assessments within the initial teacher preparation program?
13. Have you included any performance-based assessments?

Institution Resources

14. To what extent, if any, have you adjusted institution/program resources in order to implement the CCSS in the initial teacher preparation program?
15. If you have adjusted resources, where has this occurred?

Faculty Development

16. To what extent, if any, have you adjusted the faculty professional development in order to implement the CCSS in your initial teacher preparation program?

Barriers/Challenges

17. What are your greatest barriers/challenges in integrating CCSS into your teacher preparation program?

APPENDIX D

DEANS/DIRECTORS INTRODUCTORY LETTER

Dear Dr. _____,

I am writing to request your participation in and assistance with a research project entitled, “The Effect of the Common Core State Standards on Initial Teacher Preparation Programs as Perceived by West Virginia Initial Teacher Preparation Faculty and Deans of College of Education.” This research project is designed to investigate the integration of the Common Core State Standards (CCSS) in initial teacher preparation programs in West Virginia. A copy of the study abstract is attached. My name is Georgia Thornton and I am completing this research study as part of the dissertation requirements for the Ed. D. in Curriculum and Instruction at Marshall University. Dr. Ronald Childress is serving as Principal Investigator for the study.

I am requesting that you complete the enclosed *Research Study Participation Form* and include the number of the initial teacher preparation program faculty in your unit. If you are willing to participate, upon receipt of the completed form, you will receive via US mail a packet of surveys and stamped return envelopes to be distributed by you or your designee to your initial teacher preparation faculty members. Copies of the survey instrument, *Faculty Survey of Common Core State Standards Integration*, and faculty consent form are attached. The survey should take approximately 15 minutes to complete. Once the surveys are completed, faculty members will return them in stamped, self-addressed envelopes that will be provided.

This study has been approved by the Marshall University Institutional Review Board. There are no known risks involved with this study. Participation is voluntary and there will be no penalty or loss of benefits if you choose not to participate in this research study. No personal or identifying information will be collected. A summary of survey findings will be shared with all of West Virginia’s teacher preparation institutions.

You will also receive a second invitation to participate in a telephone or face-to-face interview. The interview will contain questions concerning your perceptions of the effect of the integration of CCSS on the structural and programmatic elements of your programs. During the interview, you will also be asked your perspective on the challenges and barriers to integrating the CCSS.

If you have any questions about this study, you may contact Dr. Ronald Childress (PI) at rchildress@marshall.edu (304.746.1904) or Georgia Thornton (Co-PI) at gthornton@k12.wv.us (304.638.8668). If you have any questions concerning your rights as a research participant, you may contact the Marshall University Office of Research Integrity at 304.696.4303.

Your consideration of this request is greatly appreciated. Please use the enclosed stamped, self-addressed envelope to return your completed *Research Study Participation Form*.

Sincerely,

Georgia N. Thornton, Co-PI
304.638.8668

Dr. Ronald Childress, PI
304.746.1904

APPENDIX E

STUDY ABSTRACT

Study Abstract

Purpose

The purpose of this study is to examine the level of integration of the Common Core State Standards (CCSS) in initial teacher preparation programs in West Virginia.

Specifically, the study will investigate the extent to which essential teacher competencies have been integrated, the effect of the CCSS integration on structural and programmatic elements, and barriers/challenges to CCSS integration.

Rationale

A body of research suggests that aligning the CCSS in initial teacher preparation programs is a challenge. Teacher preparation program faculty needs training on CCSS to implement the standards effectively and structural and programmatic elements should be revised for effective implementation. Further, there is no research on the level of integration of the CCSS in initial teacher preparation programs in West Virginia and this study will provide additional knowledge concerning the WV initial teacher preparation programs.

Procedures

This study is a mixed-methods design focused on examining the level of integration of the CCSS in initial teacher preparation programs in West Virginia.

The population for this study consists of approximately 164 teacher preparation program faculty and 20 deans/directors of Colleges of Education. Deans/Directors will be sent an

email detailing the purposes of the study and requesting that the deans/directors email the number of teacher preparation program faculty to the Co-Investigator. Upon receipt of the identified number of faculty, the Co-Investigator will mail packets of the Teacher Preparation Faculty Survey, cover letter and stamped return envelope for each faculty member. Another email will ask consent of the Deans/Directors to participate in an interview with the Co-Investigator to be scheduled via phone or face-to-face. No personal identifying information will be collected.

Risks and Benefits

This study will add to the body of knowledge related to the integration of Common Core State Standards (CCSS) within initial teacher preparation programs in West Virginia. Results of this study could inform the initial teacher preparation faculty and deans/directors concerning teacher competencies associated with the CCSS that will improve P-12 learning. The study could inform the West Virginia Department of Education (WVDE) and higher education institutions for initial teacher preparation program approval. The study could also inform the WVDE and higher education institutions on the professional development needs of initial teacher preparation faculty.

Inclusion/Exclusion Criteria

Teacher program faculty and deans/directors of Colleges of Education in West Virginia meet the inclusion criteria.

APPENDIX F

FAMILY MEMBER CONSENT LETTER

Dear Faculty Member,

I am writing to request your participation in a research project entitled, “The Effect of the Common Core State Standards on Initial Teacher Preparation Programs as Perceived by West Virginia Initial Teacher Preparation Faculty and Deans of College of Education.” This research project is designed to investigate the extent to which the Common Core State Standards are integrated into initial teacher preparation programs in West Virginia. My name is Georgia Thornton and I am completing this research study as part of the dissertation requirements for the Ed. D. in Curriculum and Instruction at Marshall University. Dr. Ronald Childress is serving as Principal Investigator for this study.

I am requesting that you complete the attached *Faculty Survey of Common Core State Standards Integration* and upon completion, return the survey in the enclosed self-addressed, stamped envelope. The survey consists of 30 questions related to your perceptions of the implementation of the Common Core State Standards in your initial teacher preparation program. Completing the survey will require approximately 15 minutes.

This study has been approved by the Marshall University Institutional Review Board. Your replies will be anonymous, so please do not write your name anywhere on the survey. There are no known risks involved with this study. Your participation is voluntary and there will be no penalty or loss of benefits if you choose not to participate in this research study or withdraw from the study. If you choose not to answer a question, simply leave the answer blank. Completing the survey and returning it to me in the enclosed envelope indicates your consent for use of the responses you have provided.

If you have any questions about this study, you may contact Dr. Ronald Childress (PI) at rchildress@marshall.edu (304.746.1904) or Georgia Thornton (Co-PI) at gthornton@k12.wv.us (304.638.8668). If you have any questions concerning your rights as a research participant, you may contact the Marshall University Office of Research Integrity at 304.696.4303.

By completing and returning this survey, you are also confirming that you are **21** years of age or older. You may choose to keep a copy of this letter for your records.

Your participation is greatly appreciated. A summary of survey findings will be shared with all of West Virginia’s teacher preparation institutions.

Sincerely,

Georgia N. Thornton
Co-PI
304.638.8668

APPENDIX G
RESEARCH PARTICIPATION CONSENT FORM

RESEARCH STUDY PARTICIPATION FORM

____ Yes, I agree to participate in the study.

____ No, I will not participate in the study.

If you agree to participate in the study:

_____ Number of initial teacher preparation program faculty* in your unit

*Initial Professional Education Faculty is defined as “those individuals employed by a college or university, including graduate teaching assistants, who teach one or more courses in education, provide services to candidates, supervise clinical experiences, or administer some portion of the unit.” (NCATE, 2008)

Institution: _____

Name: _____

Please return form to: Dr. Ronald Childress
Marshall University
100 Angus E. Peyton Drive
South Charleston, WV 25303-1600

Thank you.

APPENDIX H
SECOND LETTER TO DEANS/DIRECTORS

Dear Dr. _____,

Thank you for agreeing to participate in my research project entitled, “The Effect of the Common Core State Standards on Initial Teacher Preparation Programs as Perceived by West Virginia Initial Teacher Preparation Faculty and Deans of College of Education.” Enclosed are faculty consent forms, surveys, and self-addressed, stamped envelopes. Please distribute them to your initial teacher preparation program faculty.

Thanks again for your willingness to assist with this study. I will be following up within the coming weeks to schedule a convenient time to conduct the interview portion of the study with you. Please let me know if you have any questions.

Sincerely,

Georgia N. Thornton
Co-PI
304.638.8668

APPENDIX I

DEANS/DIRECTORS INTERVIEW CONSENT

Dear Dr. _____,

Thank you for participating in the survey portion of my study on Common Core State Standards (CCSS) integration in initial teacher preparation programs to satisfy requirements for the Ed. D. in Curriculum and Instruction for Marshall University. The second phase of my research involves interviewing the Deans/Directors within the institutions that participated in my survey research.

The interview will contain questions concerning any structural/programmatic changes within your initial teacher preparation program and will be structured around the following topics: admission standards, professional education requirements, clinical experiences, technological expectations, candidate assessments, institution resources, faculty development, and barriers/challenges.

The interview will take approximately 30 minutes of your time. There are no foreseeable risks or benefits to you for participating in this study. There is no cost or payment to you. If you have questions while taking part, please let me know and I will answer those for you. You will remain anonymous.

If you have any questions about this research or in the event of research related injury, you may contact Dr. Ronald Childress at (rchildress@marshall.edu) 304.746.1904, or myself, Georgia Thornton (gthornton@k12.wv.us) 304.638.8668. If you feel as if you are not treated well during this study, or have questions concerning your rights as a research participant, call the Marshall University Office of Research Integrity (ORI) at 304.696.4303.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop during the study.

If you consent to participate in the interview process, please email me, Georgia Thornton (gthornton@k12.wv.us), and I will follow up with you to schedule an interview time.

Thank you,

Georgia N. Thornton
Co-PI

VITA

GEORGIA N. THORNTON

Education

2012 Education Specialist in Curriculum and Instruction Marshall University
South Charleston, WV 25303

2002 MA Leadership Studies Marshall University
South Charleston, WV 25303

1995 BA Education Marshall University
Huntington, WV 25755

Work Experience

2013-present Administrative Assistant
Mason County Schools

2007-present Adjunct faculty member
Marshall University

2010-2013 Teacher Quality Coordinator
West Virginia Department of Education

2003-2012 School Administrator
Cabell County Schools

1995-2003 Teacher
Putnam County Schools