The Common Core Writing Standards: A Descriptive Study of Content and Alignment with A Sample of Former State Standards

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—————————— **Abstract** ——————————

Many students do not meet expected standards of writing performance, despite the need for writing competence in and out of school. As policy instruments, writing content standards have an impact on what is taught and how students perform. This study reports findings from an evaluation of the content of a sample of seven diverse states' current writing standards compared to content of the Common Core State Standards for writing and language (CCSS-WL). Standards were evaluated for breadth of content coverage (range), how often content was referenced (frequency), the degree of emphasis placed on varied content elements (balance), and the degree of overlap between one set of standards and another (alignment). The study addressed two research questions: (1) What is the nature of the CCSS-WL and the sample states' standards for writing with respect to content breadth, frequency, and balance? (2) To what degree do the states' writing standards align with the CCSS-WL? Results indicated that CCSS-WL are succinct and balanced, with breadth of coverage in some aspects of writing but not others. The seven states' standards represented varying degrees of breadth, frequency, and balance with few patterns across states. None of the states' standards had strong alignment with CCSS-WL, indicating a potential mismatch between prior curricular materials and instructional methods developed with former standards as guides to help students meet grade-level writing expectations in the new CCSS.

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Standards-based reform efforts aim to increase student achievement through specification of academic content standards that alter what occurs in classrooms (Hamilton & Stecher, 2006; Stecher, Hamilton, & Gonzalez, 2003). Cohen (1995) argues that the ultimate goal of standards-based reforms is a positive impact on teaching in order to improve student learning by leveraging top-down support for these changes, primarily through the alignment of policies related to teacher professional development, assessment and accountability measures, and challenging content standards. Content standards provide the basis for coherence among all of the standards-based reform elements. These standards are designed to guide curriculum development and subsequent instruction, to help teachers set instructional priorities and goals, to provide clear expectations for student achievement at each grade, and to raise expectations for performance.

There is evidence, though limited, that states' content standards have some influence on student outcomes via their impact on classroom instruction. For instance, the Consortium for Policy Research in Education, which conducted a longitudinal study in the late 1990s to examine schools' and districts' response to standards-based accountability policies, found that state and local entities with well-developed content standards and accountability systems provided a clear focus for improving student outcomes (Goertz, 2001; Massell, 2001). Other studies, mostly in the domains of math and science, have found that curriculum aligned with standards is related to improved student outcomes (Carroll, 1997; Isaacs, Carroll, & Bell, 2001; Reys, Reys, Lapan, Holliday, & Wasman, 2003). Additionally, in one study teachers who reported aligning their instruction with standards had students who demonstrated higher achievement (Stone & Lane, 2000).

It follows that the variability of standards across states would be expected to explain some of the variance in teaching and learning across the nation (e.g., Duke, 2001; Dutro & Valencia, 2004; Spillane, 1998; Spillane & Jennings, 1997). The promulgation of a single set of academic content standards for the nation through the Common Core State Standards (CCSS) has significant implications for teacher preparation and professional development, curriculum materials, and classroom pedagogy. The CCSS for English language arts have been formally adopted and implemented by 44 states and the District of Columbia; Alaska, Indiana, Nebraska, Oklahoma, Texas, and Virginia have elected to not adopt the new standards.

The CCSS need to be thoroughly evaluated for their content for three reasons. First, standards can be expected to effectively guide curriculum and instruction (and thus impact student achievement) only if they are well-articulated, comprehensive, and based on theoretical models of learning specific to the content being taught. Second, if the CCSS and existing state standards are not well aligned, states may be forced to adopt different curricular materials, adjust when specific aspects of content are addressed, rebalance content foci within grades, and make substantial changes to their professional development programs. Third, like most policy tools, the CCSS are dynamic rather than static and will undergo future revision based on content analyses and input from the field as the standards are enacted and student performance indices are tracked to insure that the intent of the developers to establish a set of rigorous and research-based standards that will prepare students for college and the workplace is fully realized.

Using varied means, a growing number of stakeholders have evaluated the CCSS. For instance, the Thomas B. Fordham Institute (Carmichael, Martino, Porter-Magee, & Wilson, 2010) has noted that (a) a number of the CCSS are repetitive across grades and do not specify a clearly delineated progression of rigor and (b) some core standards are too vague to guide instruction (e.g., for grade 2, a writing standard states, "With guidance and support from adults and peers, focus on a topic and strengthen writing by revising and editing," which does not indicate which aspects of writing students should be able to revise and edit by the end of second grade). Nevertheless, Fordham found that the CCSS English language arts standards were superior to the existing standards of 37 states. To reach this conclusion, Fordham used an 8-point rubric to score standards for content and rigor and a 4-point rubric to

score for clarity and specificity. Content experts rated standards using these rubrics and content-specific criteria to arrive at a summed total score, which was converted to a letter grade for each set of standards. In contrast, Porter and colleagues (Porter, McMaken, Hwang, & Yang, 2011) used the Surveys of Enacted Curriculum (SEC), a two-dimensional (topic area by cognitive demand level) content analysis coding framework applied by three to five trained coders, to evaluate the alignment of the CCSS with 24 states' English language arts standards. The SEC method yields an alignment index that quantifies the percentage overlap between cell matrices for sets of standards at each grade. Higher alignment indices are typically obtained when data are aggregated across topic areas into strands or across grades. They found that alignment between the CCSS and state standards for the 24 states evaluated ranged from .10 to .48 across grades, representing weak to moderate alignment. In general, the CCSS emphasized language study more than the state standards and deemphasized reading comprehension.

For the study reported here, we conducted content analyses of the CCSS for writing and language (CCSS-WL) and the former writing standards of a select group of states and examined how well the CCSS-WL and the states' standards aligned. Writing is a focus of this analysis because there is widespread agreement that a "reading-centric" perspective dominates current federal education policy and there has been a long-standing history of limited emphasis on the third "R" in education research and practice (Juzwik et al., 2006; National Commission on Writing for America's Families, Schools, and Colleges [NCWAFSC], 2003), which has led to weak writing instruction in U.S. schools (e.g., Applebee & Langer, 2006; Cutler & Graham, 2008; Graham & Harris, 1997; Kiuhara, Graham, & Hawken, 2009; Moats, Foorman, & Taylor, 2006; Troia, 2006; Troia, Lin, Cohen, & Monroe, 2011; Troia, Lin, Monroe, & Cohen, 2009) and poor writing performance among the nation's students (e.g., National Center for Education Statistics, 2012; Persky, Daane, & Jin, 2003; Salahu-Din, Persky, & Miller, 2008). Our study aims to (1) expand the notion of writing in content analysis research in the hope that writing is given greater weight by stakeholders, and (2) apply a broader set of quantitative content indices than has typically been reported in a single study by combining methods used by Webb (2002) and Porter (2002). Specifically, we consider the breadth of content coverage (range), how often content is referenced (frequency), the degree of emphasis placed on varied content elements (balance), and the degree of

overlap between one set of standards and another (alignment). An examination of how the CCSS-WL compare with existing state standards along these dimensions can guide efforts to revamp writing curriculum, professional development, and instructional practices to align with the core standards. A quantitative approach is potentially more rigorous and informative than the typical crosswalk approach used by many states in their mapping of existing standards to the CCSS.

While much of the research on standards focuses on reading, math, or science, there is a small body of literature that suggests states' writing standards may influence both what is taught and how it is taught. In response to changes in their state writing standards and accompanying assessments: (a) teachers reportedly increased their instructional emphasis on writing for specific audiences and purposes (Stecher, Barron, Chun, & Ross, 2000); (b) schools included more writing across the curriculum (Stecher, Barron, Kaganoff, & Goodwin, 1998; Taylor, Shepard, Kinner, & Rosenthal, 2002) and increased the amount of daily writing for students (Stecher et al., 2000); and (c) teachers reported incorporating more reform philosophies related to portfolio-based instruction and assessment as compared to traditional classroom writing practices (Stecher et al., 2000). This limited research in writing and standards-based reform offers promise that the writing achievement of K-12 students can be improved through strong writing standards that provide coherence for subsequent curriculum development, instructional goals and priorities, and student expectations. However, larger-scale studies suggest that variation in state standards essentially is unrelated to student performance differences between states, at least for reading and math (e.g., Loveless, 2012). It also is important to acknowledge that accountability assessments for writing likely have a stronger impact on what is ultimately taught in the classroom than standards and such assessments can actually narrow the focus of instruction (after all, assessments are intended to directly measure student attainment of only a portion of standards; Albertson, 2007; Hillocks, 2002; McCarthey, 2008). The take-away message from the extant research is that standards, as the intended curriculum, probably have a weak influence, if any, on student learning because the impact of standards is mediated by the enacted curriculum (what and how teachers teach), and the enacted curriculum is driven to a greater extent by assessments (Klein, Hamilton, McCaffrey, & Stecher, 2000). Nevertheless, standards serve as a guiding policy element in educational

accountability systems and deserve scrutiny because they drive decisions regarding assessment content, curriculum and instructional materials adoption, and the foci of professional development efforts.

An examination of the characteristics of CCSS-WL and comparison with existing writing standards should help illuminate the extant variability in standards and how prior state standards overlap with the new core standards, as well as provide an in-depth description of how well the CCSS-WL reflect current theoretical models of writing. Our research questions are: (1) What is the nature of the CCSS-WL and a diverse purposive sample of states' standards for writing with respect to content breadth, frequency, and balance? (2) To what degree do the writing standards of the diverse sample of states align with the CCSS-WL? The answers will help identify the similarities and differences in standards content of the CCSS-WL and various states, as well as establish how adoption of the new standards by stakeholders may necessitate changes in their curriculum, instruction, and teacher professional development because of differences.

Method

Sample

We selected a purposive sample of the adopting states to examine their most recent writing standards in place prior to CCSS adoption to compare with the CCSS-WL. We selected a small group of seven states (AZ, CA, FL, KS, KY, MA, and NY) that represented all geographic regions of the U.S., large (CA, FL, NY) and small (AZ, KS, KY, MA) states with respect to total population, and low (AZ, CA, KY) versus average/high (FL, KS, NY, MA) performing states on the 2007 NAEP writing assessment of 8th graders. We randomly assigned letter codes (A through G) to each state to report our study findings.

Standards Coding Taxonomy

As is typical for standards content analysis research (e.g., Porter, 2002), our coding taxonomy employs broad content strands to designate major instructional and developmental foci in writing as well as specific indicators within each strand that provide categorical elaboration. The taxonomy (see Figure 1) was derived from several theoretical frameworks to assure a broad representation of current thinking about writing development, instruction, and assessment. We evaluated the CCSS-WL for breadth of content coverage using

Content	CCSS-WL										
	K	1	2	3	4	5	6	7	8	9-10	11-12
Writing Processes (100)											
General Writing Process											
Topic/Genre Selection	■	■	■	■	■	■	■	■	■	■	■
Gather Information	■	■	■	■	■	■	■	■	■	■	■
Pre-writing/ Planning	■	■	■	■	■	■	■	■	■	■	■
Drafting Text	■	■	■	■		■	■	■	■	■	■
Revising	■	■	■	■	■	■	■	■	■	■	■
Editing	■			■	■	■	■	■	■	■	■
Publishing	■	■	■	■	■	■	■	■	■	■	■
Strategies											
Writing Context (200)	K	1	2	3	4	5	6	7	8	9-10	11-12
Purpose	■	■	■	■	■	■	■	■	■	■	■
Task	■	■	■	■	■	■	■	■	■	■	■
Audience	■	■		■	■	■	■	■	■	■	■
Collaboration	■	■	■	■	■	■	■	■	■	■	■
Sharing											
Feedback	■	■									
Text Models	■	■									

Figure 1. Distribution of Content for CCSS-WL by Grade Level.

Writing Purposes (300)	K	1	2	3	4	5	6	7	8	9-10	11-12
Guidance/Support	■	■	■	■	■	■	■	■	■		
Computer Technology	■	■	■	■	■	■	■	■	■	■	■
Procedural Facilitator											
Reference Materials	■	■		■		■				■	■
Source Materials	■	■		■	■	■			■		■
Disciplinary Context		■		■							■
Writing In/Out of School											
Length of Writing	■	■		■		■			■		■
Quantity of Writing											
Time for Writing	■								■		■
Sophistication											
Draw											
Record			■								
Remind											
Respond	■	■	■		■				■		■
Direct	■	■									
Request											
Entertain/Narrate	■	■	■	■	■	■	■	■	■	■	■

Figure 1. Cont.

Writing Components (400)	K	1	2	3	4	5	6	7	8	9-10	11-12
Poetic											
Express											
Exchange											
Persuade	■	■	■	■	■	■	■	■	■	■	■
Exposit/Explain	■	■	■	■	■	■	■	■	■	■	■
Inform	■	■	■	■	■	■	■	■	■	■	■
Describe											
Analyze											
Synthesize											
Summarize											
Reflect											
Evaluate											
Research	■	■	■	■	■	■	■	■	■	■	■
Functional											
General Organization	■	■	■	■	■	■	■	■	■	■	■
General Structure		■	■	■							
General Content	■	■	■				■		■	■	■
Elaboration/Detail	■	■	■	■	■	■	■	■	■	■	■

Figure 1. Cont.

	K	1	2	3	4	5	6	7	8	9-10	11-12
Narrative Organization & Content	□	□	■	■	■	■	■	■	■	■	■
Expository Organization & Content	■	■	■	■	■	■	■	■	■	■	■
Persuasive Organization & Content	■	■	■	■	■	■	■	■	■	■	■
Poetic Organization & Content	□	□	□	■	□	□	□	□	□	□	■
Response to Writing Organization & Content	□	□	□	■	■	■	■	■	■	■	■
Sentence Fluency	□	□	□	□	■	■	■	□	□	□	■
Style	□	□	□	□	■	■	□	□	□	□	□
Figurative Language	□	□	□	□	■	■	■	■	■	□	□
Semantic Aspects	■	■	■	■	■	■	■	■	■	■	■
Citations & References	□	□	□	□	■	■	■	■	■	■	■
Multimedia	□	□	□	□	■	■	■	■	■	■	■
Writing Conventions (500)	K	1	2	3	4	5	6	7	8	9-10	11-12
General Conventions	■	■	■	■	■	■	■	■	■	■	■
General Capitalization	■	■	■	■	■	■	■	■	■	■	■

Figure 1. Cont.

Sentence Beginning Capitalization

Word Level Capitalization

Text Level Capitalization

General Punctuation

Sentence Ending Punctuation

Word & Clausal Linking Punctuation

Parenthetical Punctuation

Word Level Punctuation

Quotes/Dialogue

General Handwriting

Manuscript Handwriting

Cursive Handwriting

Keyboarding

General Spelling

Graphophonemic Elements of Spelling

High-Frequency Words Spelling

Figure 1. Cont.

	K	1	2	3	4	5	6	7	8	9-10	11-12
Graphomorphemic Elements of Spelling				■							
Common Rules of Spelling				■							
Other Elements of Spelling				■	■						
General Grammar	■	■	■	■	■	■	■	■	■	■	■
Nouns & Noun Phrases in Grammar	■	■	■	■					■	■	■
Verbs & Verb Phrases in Grammar	■	■		■	■	■			■	■	
Pronouns & Pronominal Phrases in Grammar	■	■	■	■	■		■				
Adjectives				■	■			■			
Adverbs		■	■	■	■					■	
Modifiers	■	■									
Sentence Construction	■	■			■	■		■		■	
General Formatting									■		■
Specific Formatting					■	■	■	■	■		■
Writing Knowledge/ Metacognition (600)	K	1	2	3	4	5	6	7	8	9-10	11-12
Topic Knowledge	■	■	■	■	■	■	■	■	■	■	■
Genre Knowledge											
Efforts											

Figure 1. Cont.

	K	1	2	3	4	5	6	7	8	9-10	11-12
Linguistic Knowledge											
Procedural Knowledge											
Self-Regulation											
Writing Motivation (700)											
General Motivation											
Goals											
Attitudes											
Beliefs											

Figure 1. Cont.

a standards coding taxonomy of seven strands that was derived from several theoretical frameworks to assure a broad representation of current thinking about writing development, instruction, and assessment. Specifically, we drew upon Hayes' (1996) cognitive model of writing to develop two strands—(1) writing processes and (2) metacognition and knowledge; sociocultural theory (Prior, 2006) to form the (3) context strand; genre theory (Dean, 2008) to inform two strands—(4) purposes and (5) components; and linguistic models of writing (Faigley & Witte, 1981) to create the (6) conventions strand. The last strand—(7) motivation—was inspired by both cognitive and motivation theories of writing (Troia, Shankland, & Wolbers, 2012). This coding taxonomy allowed us to differentiate sets of standards in terms of their content elements, which are linked to underpinning theories about writing. The specific theories we used to guide the development of the coding taxonomy represent the bulk of the contributions to research and practice in the domain of writing (see Beard, Myhill, Riley, & Nystrand, 2009; Grigorenko, Mambrino, & Preiss, 2012; MacArthur, Graham, & Fitzgerald, 2006). While other theoretical perspectives exist, they made no additional contributions for the purpose of coding content in standards—the theoretical models we drew upon sufficiently captured all of the content we found across the diverse standards we evaluated.

Procedures

Selection of standards to code. Within each state and grade, we coded all standards that were clearly related to writing, either because they were listed under the domain of writing, or because they were within broader English language arts standards and made explicit reference to writing performance (e.g., standards for research or response to literature in which verbs such as *generate*, *produce*, *create*, or *compose* were used).

Unit of content analysis and coding. In order to accurately and reliably code the content of state writing standards, it first was necessary to account for the differing ways that states structure their standards. States' standards are structured in many different ways (e.g., Wixson, Frisk, Dutro, & McDaniel, 2002), some hierarchically with two (e.g., standard and subordinate levels of detail), three (e.g., main standard, subordinate detail, and specific examples), or even four (e.g., focus category, main standard, subordinate detail, and specific examples) levels, and some quasi-hierarchically in which information at different levels does not align. Some states include additional information in

their standards documents such as performance indicators, evaluation rubrics, and rationale. Moreover, the structure of standards may be inconsistent within any given state and grade. Such variation impacts how one determines the unit of content analysis (i.e., the smallest grain size for a set of standards) and the reliability with which the content is coded within and across states. Additionally, a consistent unit of analysis is required regardless of structure in order to accurately compare one set of standards to another set of standards. For this study we determined the unit of content analysis to be the lowest level at which information was presented most consistently in a set of standards. An individual code was applied within a unit of content analysis only once to avoid duplication, but multiple different codes could be assigned to any given unit. To accommodate the potential for additional information presented at higher levels of organization for a set of standards, unique codes were assigned at these superordinate levels, but duplication of codes from the lower levels was not allowed. Thus, a state that only used two levels of organization for its standards could be compared to another state that used four levels without bias being introduced by the specific organizational pattern chosen by a state.

Training and reliability. All coders were trained with standards from selected grades from two states not included in this study. This training helped to refine coding indicators and their definitions and to establish a baseline interrater reliability (IRR) which we then sought to improve with additional training. IRR was calculated as the total number of agreements for each indicator (presence or absence of an indicator) divided by the total number of possible agreements. IRR after training and before moving to study sample coding was on average .88. Discrepancies were resolved through consensus discussion. All subsequent coding was completed by two authors. The standards for grades 1, 6, and 12 were coded and resolved first before coding and resolving differences in the remainder of the standards for the CCSS-WL and each state to ensure adequate reliability. This process was necessary due to the number of judgments needed to accurately interpret each state's writing standards. The mean IRRs across grades ranged from .80 for States F and G to .88 for the CCSS-WL.

Measures

Range. The breadth of content coverage was evaluated by calculating the range at each grade or grade band (e.g., grades 9-10 and 11-12 for the CCSS

-WL). The range is the proportion of indicators for which there are hits (assigned codes) out of the total possible indicators in the coding taxonomy (n = 112). Standards with a larger range cover a greater breadth of content, and thus exhibit a greater degree of representativeness of the underlying theories of writing applied in the development of our coding taxonomy. We also calculated range values for each of the seven content strands at each grade or grade band.

Frequency. The frequency of content coverage was evaluated by calculating the average number of hits per indicator for which there was at least one hit at each grade or grade band. A higher frequency indicates more frequent coverage of the range of content represented in the standards. Frequency is an important variable to consider by itself because it represents the degree of repetitiveness in standards, with more repetitive content within a set of standards possibly unnecessarily lengthening the standards and making it difficult for those reading them to glean what is important. In addition, frequency values are used to calculate balance (see below).

Balance. The evenness of the distribution of hits across indicators at each grade or grade band was evaluated by calculating a balance index similar to that used by Webb and colleagues in their work on alignment between standards and assessments (e.g., Roach, Elliott, & Webb, 2005; Webb, Alt, Ely, & Vesperman, 2005). A balance index of 1.0 indicates perfect balance because each indicator has an equivalent number of hits, suggesting equivalent emphasis across indicators. In contrast, a balance index near 0 indicates that a disproportionate number of hits are on one or two indicators, suggesting a lack of equivalent emphasis across indicators. Uneven emphasis might privilege some expectations for learning over others.

Alignment. Alignment between CCSS-WL and each state's writing standards at each grade or grade band was evaluated using a method developed by Surveys of Enacted Curriculum and used in previous studies of content alignment (e.g., Porter, 2002; Polikoff, Porter, & Smithson, 2011) where diverse standards are mapped onto a neutral framework. Alignment captures the degree of exact match between the content of two standards documents and an alignment index is the quantitative representation of the degree of match. Alignment index values fall between 1 and 0, where 1 indicates perfect alignment and 0 indicates no alignment. Alignment is strongly influenced by the range and frequency of hits (e.g., Polikoff & Fulmer, 2013).

Results

Table 1 is a summary of the average range, frequency, balance, and alignment (with CCSS-WL) indices for the CCSS-WL and the sample of seven states. In this table, the indices are averages across four grade bands representing early elementary (grades K-2), late elementary (grades 3-5), middle (grades 6-8), and high (grades 9-12) school; total values (with standard deviations) also are presented for each set of standards. Figure 1 displays the content coverage of the CCSS-WL across grades based on the presence of any hits for an indicator within each content strand. In other words, this table presents a visual map of the breadth relating to all of the coding categories in our taxonomy. Figure 2 shows the degree of concordance between the CCSS-WL and the standards for the selected states at grades K, 6, and 12. Figures 3, 4, and 5 graphically display comparisons of within-strand range values for each content strand for the CCSS-WL and the sample states at grades K, 6, and 12, respectively. These figures illustrate the comparative breadth of coverage across the sets of standards and how the breadth changes across the K-12 continuum. CCSS-WL range values are presented first for each strand, with a dotted line spanning the seven states for comparative purposes. We refer to these figures and the table in our summary of results in the following sections.

Trends in the CCSS-WL

Range. Examination of Figure 1 reveals two major trends in the core standards. First, with respect to strand coverage, it is apparent that the CCSS-WL are generally comprehensive in their attention to writing processes, except for specific strategies to execute those processes, context (the social, physical, or functional circumstances outside the writer that influence text production), and components (features, forms, elements, or characteristics of text observed in the written product), especially those related to the writing purposes designated in the standards. It is particularly noteworthy that, while many of the contextual indicators are addressed, those related to (a) sharing ideas, plans, or text with others, (b) receiving verbal or written feedback from peers or adults, (c) using text models as explicit cues for text production, and (d) incorporating procedural facilitators such as graphic organizers and revision checklists to guide the writing process receive little or no focus.

In contrast, the CCSS-WL address a limited array of writing purposes

Table1. *Summary Descriptive Statistics by Grand Band and Overall for CCSS-WL and Comparison States*

State	Grade Band	Mean Range	Mean Frequency	Mean Balance	Mean Alignment with CCSS-W
CCSS-WL	K-2	.37	1.29	.83	N/A
	3-5	.46	1.60	.78	N/A
	6-8	.43	1.85	.73	N/A
	9-12	.46	1.85	.73	N/A
	Total	.43 (.04)	1.63 (0.25)	.77 (.05)	N/A
State A	K-2	.42	1.96	.74	.49
	3-5	.59	2.07	.74	.48
	6-8	.60	2.02	.74	.53
	9-12	.60	1.99	.73	.54
	Total	.55 (.09)	2.01 (0.09)	.74 (.02)	.51 (.03)
State B	K-2	.24	1.28	.83	.36
	3-5	.42	1.38	.81	.54
	6-8	.40	1.51	.77	.57
	9-12	.40	1.92	.69	.63
	Total	.36 (.10)	1.49 (0.24)	.78 (.05)	.52 (.13)
State C	K-2	.50	2.88	.68	.38
	3-5	.52	3.04	.67	.46
	6-8	.58	3.18	.65	.51
	9-12	.60	3.22	.66	.51
	Total	.55 (.04)	3.07 (0.16)	.66 (.01)	.46 (.06)
State D	K-2	.52	1.88	.75	.46
	3-5	.64	2.35	.71	.52
	6-8	.65	2.57	.66	.55
	9-12	.62	2.69	.64	.63
	Total	.62 (.06)	2.44 (0.33)	.68 (.05)	.56 (.07)
State E	K-2	.23	2.18	.80	.37
	3-5	.37	3.30	.75	.50
	6-8	.39	4.21	.75	.53
	9-12	.38	5.09	.67	.57
	Total	.34 (.08)	3.57 (1.13)	.75 (.06)	.49 (.09)
State F	K-2	.37	2.28	.69	.42
	3-5	.47	2.54	.68	.44
	6-8	.45	2.56	.70	.51
	9-12	.25	1.83	.80	.31
	Total	.37 (.11)	2.26 (0.40)	.72 (.07)	.41 (.09)
State G	K-2	.32	1.72	.73	.44
	3-5	.40	1.80	.74	.52
	6-8	.38	1.84	.74	.52
	9-12	.32	1.86	.71	.50
	Total	.36 (.04)	1.80 (0.07)	.73 (.02)	.49 (.04)

Content	State A			State B			State C			State D			State E			State F			State G		
	K	6	12	K	6	12	K	6	12	K	6	12	K	6	12	K	6	12	K	6	12
Writing Processes (100)																					
General Writing Process	•	•	•		•	•				•	•	•	•	•	•						
Topic/Genre Selection	•						•			•			•						•		•
Gather Information	•	•	•				•	•	•	•	•	•		•	•	•	•	•	•	•	•
Pre-writing/Planning	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•	•		•	•
Drafting Text	•	•	•		•	•	•	•	•	•	•	•					•				
Revising	•	•	•		•	•	•	•	•	•	•	•					•		•	•	•
Editing	•	•	•			•	•	•	•	•	•	•					•		•	•	•
Publishing	•	•	•				•	•	•	•	•	•								•	
Strategies			•					•	•		•	•									
Writing Context (200)	K	6	12	K	6	12	K	6	12	K	6	12	K	6	12	K	6	12	K	6	12
Purpose	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Task	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Audience	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Collaboration	•						•	•	•	•	•		•			•	•		•	•	
Sharing	•	•	•		•	•	•	•	•	•	•	•				•	•	•	•	•	•
Feedback		•	•				•	•	•		•	•					•				
Text Models		•	•							•											
Guidance/Support	•									•						•	•		•		
Computer Technology	•	•	•		•	•	•	•		•	•	•		•	•		•	•	•	•	•
Procedural Facilitator		•	•					•		•	•	•					•	•	•	•	•
Reference Materials		•	•				•	•	•	•	•	•		•		•	•	•	•	•	•

Figure 2. Distribution of Content for CCSS-WL and Sample States for Grades K, 6, and 12.

Category	12	6	K	12	6	K	12	6	K	12	6	K	12	6	K	12	6	K
Source Materials	•	•	•	•	•	•	•	•	▓	•	•		•	•	•	•	•	
Disciplinary Context	•	▓		▓	▓		▓	▓		•	•	•	▓	▓		▓	▓	
Writing In/Out of School																		•
Length of Writing	▓	•		•			•	•		•						•	•	•
Quantity of Writing				•	•	•												
Time for Writing	▓	▓		▓			▓	▓		▓			▓			▓		
Sophistication	•			•	•								•	•	•	•	•	
Writing Purposes (300)	12	6	K	12	6	K	12	6	K	12	6	K	12	6	K	12	6	K
Draw			•			•						•						
Record					•	•												
Remind																		
Respond	▓	▓	▓	•	•	•	•	•	•	•	•	•	•	•	•	•	•	▓
Direct		•	•				•	•		•	•	•						
Request										•	•							
Entertain/Narrate	•	•	•		•	•	•	•	•	•	•	•	•			•	•	•
Poetic	•	•			•	•				•	•	•	•	•	•		•	
Express						•						•		•	•			
Exchange		•	•	•	•	•	•	•	•	•	•	•					•	
Persuade	•	•	•	▓	▓	▓	•	•	•	•	•	•	•	•	•	•	•	▓
Exposit/Explain	•	•	•		•		•	•		•	•	•	•	•	•	•	•	▓
Inform	•			•		•	•	•		•	•	•	•	•	•		•	
Describe										•	•	•		•	•	•	•	
Analyze				•	•	•							•	•				
Synthesize													•					

Figure 2. Cont.

Summarize	Reflect	Evaluate	Research	Functional	Writing Components (400)	General Organization	General Structure	General Content	Elaboration/Detail	Narrative Organization & Content	Expository Organization & Content	Persuasive Organization & Content	Poetic Organization & Content	Response to Writing Organization & Content	Sentence Fluency	Style	Figurative Language	Semantic Aspects
			•		12	•	•	•	•						•	•		•
•			•		6	•	•	•	•	•			•		•	•		•
			•		K	•	•	•	•							•		•
		•			12			•						•				
•					6	•		•	•	•	•			•	•			•
					K		•	•	•					•				
					12	•	•	•		•	•	•		•	•	•	•	•
					6	•	•	•	•	•	•	•		•	•	•		•
					K	•		•								•		
•			•	•	12	•	•	•	•		•	•		•	•	•	•	•
•				•	6	•	•	•	•	•	•	•	•	•	•	•	•	•
•				•	K	•	•	•	•					•	•	•	•	•
•	•	•	•	•	12	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•		•	•	6	•	•	•	•		•			•	•	•	•	•
	•				K	•	•	•	•		•				•	•	•	•
	•		•	•	12	•		•	•	•				•	•	•	•	•
		•	•	•	6	•	•	•	•	•	•	•		•	•		•	•
					K	•		•	•									
•				•	12	•		•	•	•	•	•	•	•	•	•	•	•
•	•		•	•	6	•	•	•	•	•	•	•	•	•	•	•	•	•
•					K			•	•									

Figure 2. Cont.

Citations & References	Multimedia	Writing Conventions (500)	General Conventions	General Capitalization	Sentence Beginning Capitalization	Word Level Capitalization	Text Level Capitalization	General Punctuation	Sentence Ending Punctuation	Word & Clausal Punctuation	Linking Punctuation	Parenthetical Punctuation	Word Level Punctuation	Quotes/Dialogue	General Handwriting	Manuscript Handwriting	Cursive Handwriting	Keyboarding	General Spelling	Graphophonemic Elements of Spelling
▓	●	12	●	▓				▓					▓						▓	
●	●	6	▓	▓				▓			●	▓		●	●			▓		
	●	K	▓	▓	▓	▓		▓							●				▓	●
●		12	▓	▓				▓					▓						▓	
●		6	●	▓										●	●	●		▓	●	
		K	●	▓	▓	▓		▓						●	▓				●	●
●	●	12	●	▓				●					▓						●	
●		6	▓	▓					●	▓	●		●					▓		
		K	▓	▓	▓	●		▓						●	▓					●
●		12	▓	●		●	●	●	●	●	●	▓	●	●	●				●	
●	●	6	▓	●		●	●	●	●	●	▓	●	●	●				▓	●	●
		K	▓	●	▓	▓		●							●				●	●
●	●	12	●	●				●		●		▓	●						●	
●	●	6	●	●				●		▓				●				▓	●	
●	●	K	●	●	▓	▓		●						●	▓	●	●	●	
●	●	12	●	●		●		▓		●	●	▓	●	●						●
●	●	6	●	●		●		●	▓			●	●					▓		●
		K	●	▓	▓	●		▓	●					●	▓			▓	●

Figure 2. Cont.

High-Frequency Words Spelling	Graphomorphemic Elements of Spelling	Common Rules of Spelling	Other Elements of Spelling	General Grammar	Nouns & Noun Phrases in Grammar	Verbs & Verb Phrases in Grammar	Pronouns & Pronominal Phrases in Grammar	Adjectives	Adverbs	Modifiers	Sentence Construction	General Formatting	Specific Formatting	Writing Knowledge/ Metacognition (600)	Topic Knowledge	Genre Knowledge	Linguistic Knowledge
														12	●		●
			●								●		●	6		●	●
														K			●
														12	●		
●													●	6	●		●
●												●		K	●		●
●				●	●	●			●				●	12	●		
●				●	●	●	●		●	●			●	6		●	●
●										●		●	K				●
			●	●		●	●	●	●	●		●	●	12	●	●	●
●			●	●	●	●	●	●	●	●	●		●	6	●		●
				●						●	●	●	K	●		●
				●	●	●	●		●	●	●	●	12	●	●	●
				●	●	●	●			●		●	6	●	●	●
●			●	●	●	●			●		●	K	●	●	●
				●							●	●	12			
●				●		●	●		●	●	●	6			●
												●	K			●
	●	●				●	●	●	●	●	●	●	●	12		●	●
	●	●			●	●	●	●	●	●	●	●	6	●	●	●
											●	K			●

Figure 2. Cont.

Procedural Knowledge	Self-Regulation	Writing Motivation (700)	General Motivation	Goals	Attitudes	Beliefs	Efforts
•		12					
		6					
		K					
•		12					
		6	•		•		
		K	•		•		
•		12					
•		6					
		K					
	•	12		•			
	•	6		•			
	•	K		•			
•	•	12		•			
•	•	6		•			
•	•	K					
		12					
		6					
		K					
•		12		•			
•		6					
•		K					

Figure 2. Cont.

Figure 3. *Average range values for content strands in kindergarten.*

(only six of 21 for which we coded), knowledge/metacognition (knowledge resources within the writer that are drawn upon to compose a written text, or knowledge that is the focus of development during instruction, or reflection on the knowledge one possesses), and conventions. For knowledge and metacognition, the core standards only address the development of topic and linguistic knowledge, but not genre or procedural knowledge or the self-regulation of writing. For conventions, the CCSS-WL tend to focus on general aspects of writing conventions (e.g., spelling) that provide little detail rather than specific skills, except for grammar-related skills in the early elementary grades. The CCSS-WL do not address writing motivation, or personal attributes within the writer that drive writing activity.

The number of indicators covered in many strands tends to increase across grades, which also is evident in the grade band range averages reported in Table 1. As reported in Table 1, the proportion of total indicators hit increases from .37 to .46 between grades K-2 and 3-5, and then remains fairly stable through high school. This trend toward greater breadth of content coverage is most noticeable within writing processes and components (see Figures 1 and 3-5). For processes, the strand range increases from .33 in kindergarten to .78 in grades 6 through 12. For components, the strand range increases from .33 in kindergarten to .87 in grade 12. In contrast, there is an overall decline in the
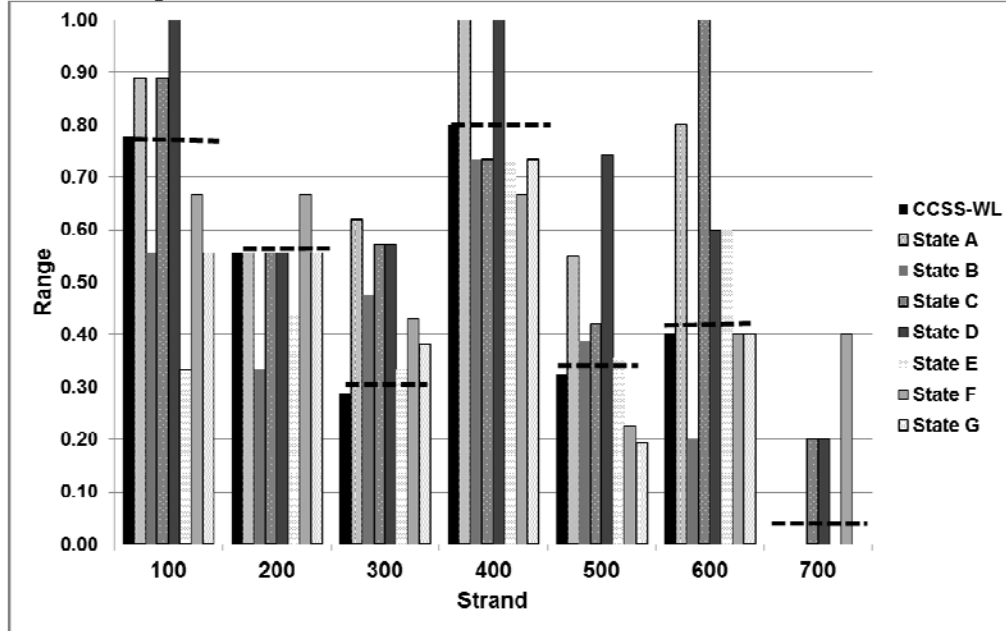
Figure 4. *Average range values for content strands in 6th grade.*

number of indicators for which there are hits in writing conventions, which indicates the CCSS-WL cover a broader range of conventions in the elementary grades (.45 in kindergarten) versus the secondary grades (.26 in grade 12). As seen in both Figure 1 and Figures 3-5, the coverage of writing purposes (ranges between .24 and .29) and knowledge/metacognition (ranges between .40 and .20) is fairly stable across grades. Thus, the CCSS-WL consistently target a few writing purposes across grades, but otherwise reflect a spiraling set of increasingly broader and sophisticated skills, save for conventions of writing.

Frequency. According to data in Table 1, the mean frequency of hits per indicator for the CCSS-WL rises 43% from the early elementary to secondary grades, with an overall mean frequency of 1.63. Recall that the frequency value represents the average hits for those indicators on which there are indeed hits, not all indicators. Generally speaking, the core standards have a low frequency of coverage of the range of content represented in the standards, meaning that once an aspect of writing content is addressed in the standards, there is not much repetition of that same content elsewhere in the standards for a given grade. Thus, the CCSS-WL are succinct and to the point.

Balance. With respect to the distribution of hits across indicators, the core standards place relatively equivalent emphasis on the content covered

within them, with an overall balance index (BI) of .77 across grade bands. According to Webb (2005), BIs greater than .70 suggest relatively equal emphasis on content because such a value can only be attained with a distribution that is not unimodal or bimodal, but rather multimodal in nature.

Comparison of CCSS-WL and Selected States

Range. As can be seen in Table 1 and Figure 2, four of the sampled states cover relatively less writing content than the CCSS-WL (about a third of the total number of indicators across grades), while three states demonstrate a greater breadth of coverage (about half of the indicators). As with CCSS-WL, most of the states we sampled generally cover a greater breadth of standards in secondary grades than in elementary grades; however, this is not true in the case of States F and G, where there is an inverted "U" shape to the range values across grade bands. In other words, these states return in high school to their approximate breadth of content coverage in early elementary school.

Table 1 and Figures 3 through 5 illustrate how the breadth of coverage of the sample states compare with the CCSS-WL for each content strand over the K-12 continuum (using grades K, 6, and 12 for illustration). First, States A, C, and D consistently attain a higher range value for writing processes
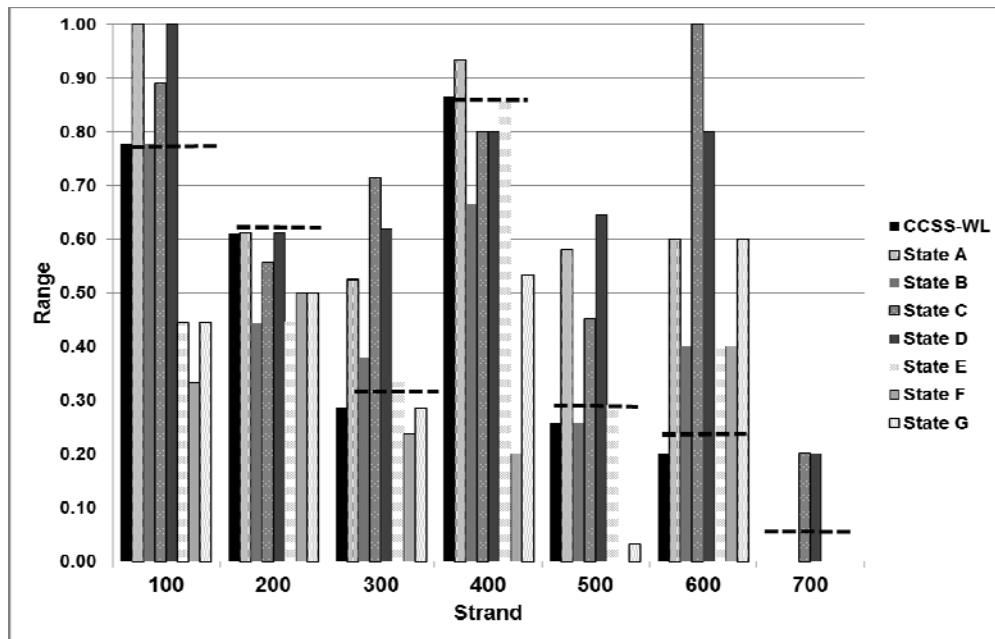
Figure 5. *Average range values for content strands in 12th grade.*

(strand 100) than CCSS-WL and the other states, and there is a general trend for more processes to be covered in higher grades by all states' standards. Second, most states and CCSS-WL address about half of the indicators for writing context (strand 200) from grade to grade, except for States B and E—their standards are consistently limited in range for writing context. Specifically, neither of these states addresses the provision of peer or teacher guidance and support for writing, writing within disciplinary (i.e., content area) contexts, or specification of the duration and/or frequency of sustained student writing. Third, just about every state at each grade has greater breadth than the CCSS-WL for writing purposes (strand 300; especially States A, C, and D), save for States B and E in kindergarten, which cover far fewer purposes. States A, C, and D, for instance, expect students to write for the purposes of creating poetry, producing summaries, exchanging information through social media such as letters, emails, and blogs, and functional activities such as completing forms. There also appears to be a general trend towards increasing the range of purposes into middle school and then narrowing the range again in high school, though this was not the case for States C and D. Fourth, generally speaking, there is more breadth in writing components coverage (strand 400) in later grades and most states cover roughly the same range of content as the CCSS-WL or somewhat less. Fifth, most states cover fewer writing conventions (strand 500) than the CCSS-WL in kindergarten, but then surpass the core standards in addressing this area of writing in later grades (except for States F and G). The most notable areas in which states exceed the CCSS-WL for conventions include specific aspects of grammar: noun and verb phrase construction, the use of phrasal and clausal modifiers, and general parameters for effective sentence construction. Handwriting also is an area addressed in states' standards more consistently than in the CCSS-WL. Sixth, most states at most grades have better range of coverage for writing knowledge and metacognition (strand 600) than the CCSS-WL (which only address the development and/or application of topic knowledge and linguistic knowledge) and State C covers all aspects of this area across grades. Last, it is apparent that, like the CCSS-WL, motivation to write (strand 700) is barely addressed in state standards at any of these grades.

Based on these trends in range, it would appear than States B and E have clearly expanded their coverage of writing by adopting the CCSS-WL,

whereas States A, C, and D decreased their coverage by adopting the CCSS-WL.

Frequency. Much like the CCSS-WL, most of the states exhibit a gradual increase across grades in the average frequency of hits per indicator with at least a single hit. States A and F do not follow this pattern; rather, their hits increase and then decrease in average frequency. With the exception of State B, state standards have a higher average frequency of hits than the CCSS-WL. In particular, State E has an overall average of 3.6 hits per indicator, meaning that this state's standards are quite repetitive and become more so in higher grades (rising 133% from K-2 to high school). State C also has an elevated overall average frequency of hits (3.1), though this state's distribution of mean frequencies is much less dispersed than that of State E. Thus, most of the states we examined had standards that were much more repetitive than the CCSS-WL.

Balance. With respect to balance of content coverage, three states (A, C, and G) have fairly consistent emphasis on the range of content represented in the standards across grade bands, though State C's overall mean BI falls below the .70 threshold recommended by Webb (2005). Three states (B, D, and E) display drops in balance across grade bands, similar to that displayed by the CCSS-WL. One of these states, State D, has a relatively weak overall mean BI at .68. Finally, only State F shows an increase in mean BIs across grade bands. Overall, the majority of the state standards and the CCSS-WL appear to place relatively equal emphasis on covered writing content.

Alignment. The alignment of the sample states' writing standards with those of the CCSS-WL generally improves across grade bands, except for States F and G. In fact, State F has the lowest overall mean alignment index (AI) of .41, suggesting the weakest alignment with the core standards out of those state standards we examined. This is not surprising given that the mean range values for State F's grade bands precipitously decreases as does the average frequency of hits per indicator. State D, on the other hand, exhibits the best alignment with the CCSS-WL at .56. Because none of the sample states exhibit a high degree of alignment with the CCSS-WL, presumably every one of these states will have to reconsider their writing curriculum materials, instructional pacing and foci within grades, and professional

development for teachers as they implement the newly adopted core standards. They also may need to examine their prior standards to identify if there are candidates for inclusion in the 15% of augmentative standards permissible as specified in the compact of the CCSS initiative.

Discussion

Standards establish coherence among all the policy elements of education reform efforts, and are assumed to drive classroom curriculum and instruction, as well as guide the development of accountability measures, and consequently influence student performance. However, any set of standards that is expected to effectively guide what happens in the classroom must be comprehensible to those responsible for enacting the standards and must reflect theory and research about learning and pedagogy. The CCSS, the result of a collaborative partnership between the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO), were developed to be a clear, coherent, and robust set of standards for the nation's schools. As most states have adopted the core standards, it is important for scholars to closely examine the standards to see if they live up to their billing as rigorous expectations grounded in solid research evidence and informed by standards from high-performing states and nations. In this study, we begin to do this by undertaking a content analysis of the CCSS for writing and language and a small but representative sample of standards from states that were in force immediately prior to these states' adoption of the CCSS.

Analysis of CCSS-WL

In the area of writing instruction, the core standards are succinct as shown by the low frequency with which the range of content addressed in the standards is referenced within each grade or grade band. This would appear to be consistent with the intent of the NGA and CCSSO to create standards that are precise and yet interpretable by the public at large. A high degree of repetitiveness could logically impede interpretation by teachers and others because they would have to sift through redundancies to isolate kernels representing the core knowledge and skills expected of students.

The CCSS-WL reflect spiraling standards in that (1) typically once an aspect of writing is introduced at one grade, it is addressed at all subsequent grades and (2) the range and sophistication of many aspects addressed increases across grades. For instance, in the early elementary grades, fewer elements of

the writing process and fewer components of written texts are expected of students, but in later grades more elements of process and more components in text are required. Perhaps not surprisingly, writing conventions show a reverse pattern, with a higher number of conventions addressed in the early grades than in the later grades, presumably because it is important to master the conventions of writing early in development (e.g., Berninger & Amtmann, 2003). In some academic areas such as mathematics, a spiraling curriculum in which numerous content foci (e.g., geometry, measurement, estimation) are repeated across most grades is believed to be disadvantageous because it fosters a "mile wide and inch deep" phenomenon (e.g., Schmidt, Houang, Cogan, 2002), but this is likely not the case for writing. Increased sophistication of knowledge, skills, and strategies applied across diverse writing tasks for diverse purposes and audiences demands an additive and integrative approach to instruction. Effective writing instruction and performance cannot be executed within segregated sets of content foci—e.g., purpose is not separate from process, content, or convention—and specific skill and knowledge areas develop over a protracted period of time (e.g., sentence ending, word-level, word and clausal linking, and punctuation used for dialogue cannot all be taught and learned in a span of a few grades, nor can all the forms and nuances of the narrative macro-genre). The writing and language standards set forth in the CCSS appear to accommodate the cumulative and combinatory nature of writing. However, it is unclear if the grades at which specific expectations are established reflect the state of knowledge about writing development, which is admittedly quite limited (Graham & Harris, 2013).

The relative emphasis on the range of content within the core standards appears to be well balanced. Such consistency may provide a coherent framework to guide instruction and assessment and may help to ensure greater opportunities for student mastery of writing expectations because the content does not drastically change across grades and all expectations receive relatively equal emphasis. However, it is not clear if equivalent emphasis is desirable for writing—perhaps some aspects of writing process for instance (e.g., planning and revising) should be privileged over others to support students' attainment of writing competence.

The CCSS-WL more or less incorporate aspects from all of the theoretical models we used to guide the development of our coding

taxonomy—theories (and related practices) that have been shown through research to be strongly related to student writing outcomes—except for motivational frameworks related to writing, but there are gaps across grades and within strands. We would encourage adopters of the standards to consider the implications of these findings. For example, a recent meta-analysis by Graham, Harris, and Hebert (2011) found an average weighted effect size of .77 (a large effect) on the quality of students' papers associated with verbal and written peer or teacher feedback on students' texts or their attainment of writing skills or strategies. This effect size was derived from eight studies with participants in grades 2 through 9. The CCSS-WL address feedback in kindergarten and first grade, but not in later grades. Another recent meta-analysis (Graham & Perin, 2007) found a small but significant average weighted effect size of .25 on writing quality from six studies with pre-adolescent and adolescent participants for the study of text models (also see Hillocks, 1984). The CCSS-WL barely make reference to the use of text models as heuristics for rhetorical strategies. This same meta-analysis found a large effect (average weighted effect size of .82) for teaching strategies (i.e., flexible plans with multiple steps that are deployed mindfully to achieve a goal) to support the writing process from 20 studies with participants in grades 4 through 10. The core standards do not refer to strategies at all. The CCSS-WL devote considerable attention to grammar in grades K through 4, although traditional grammar instruction (the instruction most likely employed to teach such skills) has consistently been found to yield negative effects on student writing performance (Graham, McKeown, Kiuhara, & Harris, 2012; Graham & Perin, 2007; Hillocks, 1984). In contrast, the core standards cover very little specific content related to spelling, handwriting, and keyboarding (i.e., text transcription skills), which have been found to play a vital role in the development of accomplished writing (e.g., Graham, Berninger, Abbott, Abbott, & Whitaker, 1997; Graham & Harris, 1997; McCutchen, 1996) and instruction in which has a moderate impact (average weighted effect size of .55) on writing quality (Graham et al., 2012). Finally, the CCSS-WL do not address writing motivation though there is evidence that at least two aspects of motivation—goal setting and self-efficacy—directly impact writing performance and are amenable to instruction (e.g., Graham & Perin, 2007; Pajares, 2003; Schunk & Swartz, 1993).

Other concerns include the limited range of writing purposes, focusing

on the narrative, persuasive, informative and explanatory, literary response, and research genres, those that align with college and career performance expectations and are likely representative of the types of writing expected in postsecondary contexts (cf. Addison & McGee, 2010; Brockman, Taylor, Kreth, & Crawford, 2011). Many in the community of teachers and scholars of writing (and certainly genre theorists) would argue that such a narrow range of purposes will stifle student creativity and engagement, and make writing less appealing to students who struggle with "academic" forms of writing. There are common writing purposes that are highly relevant to civic life (e.g., letters, emails, and blogs) and personal growth (e.g., journals, diaries, reflections) omitted by the CCSS-WL (see NCWAFSC, 2008). Moreover, the potential for curtailing expression in more diverse forms of writing (e.g., poetry, song lyrics, hip-hop, scripts) that can reflect reform pedagogies derived from critical (e.g., Giroux, 1997) and multicultural (e.g., Gay, 2010) theories is a concern, because these pedagogies and writing purposes serve important social and political functions through student empowerment and engagement. Vigilance will be required of educators to maintain space in the curriculum for these genres not contained in the CCSS-WL because of their essentiality to students' lives.

State Standards Alignment with CCSS-WL

Our analysis of the range values of the seven states we purposively sampled compared with the breadth of content coverage in the CCSS-WL clearly demonstrates that some states will trade coverage of important aspects of writing by adopting the less comprehensive, though well balanced and succinct, core standards, while other states will make a change for the better with adoption of the CCSS-WL. Nevertheless, all of the standards we examined were weakly to moderately aligned with the core standards (a finding consistent with that reported by Porter et al., 2011), and this has important implications for curriculum development and classroom instruction vis-à-vis materials, scope and sequence, and professional development and teacher education efforts.

Recent surveys of classroom writing instruction (Cutler & Graham, 2008; Gilbert & Graham, 2010; Kiuhara et al., 2009) present a picture of what typically occurs in elementary and secondary writing classrooms. In some cases, current instructional practices are well aligned with CCSS-WL. For example, elementary teachers report frequently teaching students how to plan and revise their writing, an expectation for elementary students in the CCSS-WL. In other

cases, current instructional practices, perhaps well aligned with state content standards, are misaligned with the CCSS-WL. This appears most striking for writing purposes: elementary and secondary teachers report frequently teaching students to take notes, summarize information, and participate in journal writing, purposes that do not occur in the core standards.

A lack of alignment between current writing instructional practices and programs with the CCSS-WL compounded by poor alignment between states' previous writing standards and the core standards has implications for professional development and curricular planning. As many teachers receive little or no coursework on how to teach writing in teacher education programs (e.g., Gilbert & Graham, 2010), extensive professional development and mentoring likely is needed to ensure that classroom instruction supports students in meeting the new content expectations. Districts and schools may need to evaluate their current writing curricular materials and purchase supplementary or new programs. Instructional and curricular reform should focus on ensuring that instruction is targeted toward the components of the CCSS-WL as well as the evidence-based instructional methods shown to result in improved writing achievement.

Future Research

The indices used in this study—range, frequency, balance, and alignment—are based on commonly used measures from studies on standards and assessments alignment. However, there is little guidance in the extant literature for determining which measures are most relevant to judging the quality of content standards and how to interpret indices in the service of examining standards (or assessments, for that matter). As an example, although Webb (2005) suggests a BI of .70 or greater represents relatively equal emphasis on the range of content represented in standards or assessments, it is not clear if equal emphasis is, in fact, an asset. Is it possible that more emphasis on a few aspects of writing would lead to better translation of standards in classroom instructional practice? Is differential emphasis or equal emphasis predictive of better student writing outcomes, or is balance related to student writing performance at all? The same questions are relevant for all of these indices. We simply do not know which measures are important for describing standards and how they impact instruction and subsequent student performance. Although we purposely selected a sample of states that

represented a range of performance on the 2007 NAEP state writing assessment, we did not find in this small sample a clear pattern on the indices related to NAEP performance. Thus, future research needs to clarify which measures are important to describing standards and how they relate to teacher action and student performance. Given that research suggests standards have a restricted influence on teaching and learning because other forces exert a stronger influence (e.g., Loveless, 2012), one might rightly conclude that education reform research focused on standards should be situated in the context of classroom enactment as the nexus of standards, assessments, teacher and class characteristics, teacher values, beliefs, and interpretations, and sociopolitical and cultural factors (see Beach, 2011).

In summary, much work remains to be done to better understand the role of standards in improving student achievement, particularly in the area of writing. As much of the country adopts and implements the CCSS, continued revision and refinement is needed to develop a set of standards that will best guide future curriculum and professional development in K-12 schools to meet the needs of 21st century college and career demands (NCWAFSC, 2003, 2004). States with minimal alignment with CCSS may experience difficulties in the transition, due to mismatched curricular materials and current instructional methods. Finally, the CCSS appears to be a step up for some states, while other states may note a restricted range and emphasis on important writing aspects as compared to their writing standards prior to CCSS adoption. Educators will need to be mindful that the new core standards are only guideposts and minimum expectations for student learning: incorporating other aspects of writing content not covered by the CCSS-WL likely will be valuable regardless of whether a state has traded up or down, because the unique learning needs of students must be considered.

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