Implementation of the Nevada Academic Content Standards in English Language Arts and Mathematics: Key Issues

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Executive Summary

In 2010, the State of Nevada adopted new standards for what K-12 students should know and be able to do. The standards in English Language Arts (ELA) and mathematics reflect the Common Core State Standards that 45 other states had initially adopted. These new standards were developed to make students more prepared for college and the workplace, for example in ELA by having students demonstrate proficiency in reading complex fictional and nonfictional/expository text and, in mathematics, balancing computational fluency with conceptual understanding. This paper describes the new standards in some detail and some of the educational research that supports the standards. It concludes that:

- There is substantial research evidence supporting many aspects of the standards but not all.
- It is important for teachers to assess through formative methods their implementation of the new standards to improve their teaching methods and monitor student learning.
- It is also important for formative evaluation to be conducted at all other levels of the educational system (district, regional, state, and federal). Key issues that formative evaluations and policy deliberations should address include:
  - Teacher and administrator understanding of the new standards (which appear to vary widely);
  - Examining the appropriate balance of instruction between literary and expository text in light of what will best prepare students for college;
  - Improving the quantity and quality of professional development;
  - Enhancing rather than diminishing the range of choices afforded to classroom teachers in how curriculum and instruction is provided; and
  - Evaluating the effects on the educational system of new “standard-aligned” tests and the state’s existing accountability policies.

Introduction

Pursuant to NRS 389.019, the Council to Establish Academic Standards (in 2010) and the Nevada State Board of Education (in 2012) established more rigorous content standards, specifically known as the Nevada Academic Content (NVAC) standards, for each grade level.
regarding what students should know and the skills they should possess. The Nevada standards in English Language Arts (ELA) and mathematics reflect the Common Core State Standards (CCSS). This paper briefly describes the new standards and how they were developed nationally, discusses some of the educational research connected with the standards, and identifies key issues that policy deliberations and formal evaluations might ideally address.

**Nature and Development of the Common Core State Standards**

The new standards are contained in two documents that are available at the CCSS Initiative website [http://www.corestandards.org/](http://www.corestandards.org/), one for mathematics and one for ELA and “literacy in history/social studies, science, and technical subjects.” The development of the standards was led by state governors and school superintendents through their national professional organizations, jointly with a nonprofit group called Achieve.

**The Problems Addressed**

The Common Core was developed, in part, because states varied widely in the quality and breadth/depth of their standards. Many states had been encouraged by the federal government during the 1990s to develop state standards, but definitions of “proficiency”—based on state standards and measured by statewide assessments—were found to be quite variable in the last decade (CEP, 2006). The No Child Left Behind (NCLB) Act, passed in 2001, emphasized statewide testing on commercially available or state developed tests and provided negative consequences to districts and schools who failed to make “adequate yearly progress” in test scores, thereby creating an incentive for states to set proficiency levels rather low, although—as stated—there was also wide variation among states (Rothman, 2011). Many state standards were found to contain a lack of focus and coherence (Porter, Polikoff, & Smithson, 2009) and did not prepare students adequately for college (Rothman, 2013). There was also
concern with high levels of remediation needed by many students attending college and that U.S. students as a whole did not rank very high on internationally administered tests (Rothman, 2013). When U.S. standards, curricula, and textbooks were compared with those in other industrialized countries, they were criticized as being “a mile wide and an inch deep,” with a heavy emphasis on covering content material and skills that would be “on the test.” Typically the tests emphasized factual recall and did not require students to understand the material. Research has shown that students are more likely to learn material and use it in new contexts when they have an understanding of it (Bransford, Brown, & Cocking, 1999). Advocates of the new standards also argued that there needed to be a greater emphasis on critical, creative, and communication skills if students were to become adequately prepared for college or high paying jobs.

There was one other problem the new standards address. To be college- and career-ready, students need to be able to read not only literature but also informational texts. Scientific and historical knowledge is important, but these subjects have tended to receive less attention and instructional time, professional development, and evaluation of curricula, especially in elementary schools. (This situation is, in part, due to the fact that reading and mathematics were heavily assessed during the last decade.) At the secondary level, the complexity of the texts students are required to read in ELA, science, and social studies has declined in recent years (ACT, Inc., 2006), and reading assignments (other than reading the textbook) and writing assignments are relatively rare in science and social studies (Rothman, 2013). The new standards envision that, across the school curriculum, students will read a balance of both fiction and nonfiction of increasing grade-level complexity. Few prior state standards specifically addressed the complexity of texts that students are asked to read (ACT, Inc., 2006).
Development of the Standards

The CCSS were developed in several phases. First, small working groups of educators were convened to write standards of what it would mean to be college- and career-ready in the 21st century. Some of the participants were from Achieve, the College Board, and the Educational Testing Service, on the assumption that these individuals would be familiar with the research on college readiness. (There were also separate feedback groups, including education professors from research universities such as Stanford, Harvard, and Michigan State, who were familiar with various aspects of educational research.) The working groups analyzed entry-level course textbooks (i.e., for first-year college students and workplace training programs) and conducted other research to support the standards (Rothman, 2013).

The standards developed by these groups were not the complete Common Core Standards but rather standards that defined the “end points”: what students should know and the skills they should possess by the end of 12th grade. The decision to use a relatively small number of people for this task was deliberate, based on research by Coleman and Zimba (2007) that found standards initially developed through broad and open participation became too “numerous”: too many standards to fit too many agendas, resulting in a lack of depth on any one. (Note: While this situation may have been the case in many states, it was not necessarily the case in Nevada, where the old state standards were few and sparse, with many gaps.)

Once the initial guiding standards were made public, larger groups of about 100 educators (including scholars, teachers, and business representatives) developed grade-by-grade standards. Feedback was then obtained on the initial drafts from a broad segment of groups, with thousands of responses. The final Common Core documents were then released in 2010.
Adoption of the Standards

The federal government was not involved in the development process and did not require states to adopt the new standards, but it did create strong incentives later when it offered 40 additional points (out of 500) in the Race to the Top initiative to states using college- and career-ready standards that were internationally benchmarked (Rothman, 2011). (Race to the Top was a state-by-state competition for additional federal funds; Nevada applied for but did not receive these funds.) The Secretary of Education also indicated that waivers from No Child Left Behind requirements would be granted to states who adopted college- and career-ready standards with specific statewide assessment and accountability provisions, including classifying and differentially supporting schools receiving Title 1 funds (USDE, 2012). Given these incentives, 46 states, including Nevada, adopted the CCSS as their state standards during 2010-2012.

However, the federal incentives were not the only reason that Nevada adopted the new standards. There was also dissatisfaction with Nevada’s high rates of college remediation (for example, 55.6% of high school graduates were placed in college remedial courses in 2013-14, NSHE, 2014) and the low number of individuals statewide (only 28%) with an associate’s degree or higher (Klaich & Erquiaga, 2014). Furthermore, there was dissatisfaction with the old Nevada education standards. In comparing the old with the new standards, one administrator interviewed noted that the new standards are much clearer, more detailed, have more logical and research-based progressions, and contain a good balance between skills and procedures and conceptual understanding. The old standards were sparse and, in mathematics particularly, mostly emphasized skills.
Structure and Nature of the Standards

It is important at this point to explain what the CCSS contain and exactly what was adopted by the state. The standards “define what students are expected to know and be able to do, not how teachers should teach” (CCSSI, 2010a, p. 9). Teachers may use different curricula, materials, and methods in teaching the standards, although they do impose some constraints on instruction (for example, in the order and grade levels that topics are taught). Also, some of the mathematical practices students are expected to learn, such as the ability to construct arguments and critique the reasoning of others, do tend to promote the use of some instructional methodologies over others. Nevertheless, the standards leave a lot unsaid about how teachers are to enable students to meet the standards. Both the ELA/Literacy in History & Social Studies/Science/Technical Subjects Document (hereinafter “ELA/Literacy”) and the Mathematics Document begin with a set of general expectations that are designed to make students “college and career ready.”

ELA and Literacy in Other Subjects. Page 10 of ELA/Literacy describes 10 anchor standards to which all the grade-level standards are linked in a backward-mapped fashion (see Table 1). To be college- and career-ready, students have to be able to understand and summarize the main ideas of a text and cite details to back up their arguments. They need to be able to “read closely,” when appropriate, to support their inferences, analyze how texts develop and are structured, use different points of view, and determine how specific word choices contribute to meaning. Students should be able to evaluate arguments contained in a text and to integrate and evaluate content from diverse media (e.g., pictures, films, charts and graphs). They need to be able to analyze commonalities and differences among texts with similar themes or topics “to build knowledge” (e.g., scientific or historical knowledge), because building background
knowledge makes it easier to read such texts (Recht & Leslie, 1988). These proficiencies should be demonstrated on complex literary and informational texts.

The next 89 pages of ELA/Literacy present specific grade-level standards for reading, writing, speaking and listening, and language (e.g., grammar and vocabulary). So, for example, in the first anchor standard, a first-grader should be able to ask and answer questions about key details of a literary text, whereas a sixth grader should be able to cite textual evidence about what the text says explicitly and about inferences made from the text. By grades 11-12, the evidence needs to be strong and thorough, and the student needs to identify where matters are left uncertain. The CCSS therefore define a “learning progression,” which is a description of how competencies should develop over time.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Summary of Common Core General Standards</th>
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<tr>
<td><strong>Anchor Standards (English/Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects)</strong></td>
<td><strong>Headings of Practice Standards (Mathematics)</strong></td>
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<tr>
<td>1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.</td>
<td>1. Make sense of problems and persevere in solving them.</td>
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<td>2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.</td>
<td>2. Reason abstractly and quantitatively.</td>
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<td>3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.</td>
<td>3. Construct viable arguments and critique the reasoning of others.</td>
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<tr>
<td>4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.</td>
<td>4. Models with mathematics.</td>
</tr>
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</table>
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a selection, chapter, science, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

9. Analyze how two or more texts address similar themes or topics in order to build knowledge to compare the approaches the authors take.

10. Read and comprehend complex literacy and informational texts independently and proficiently.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.

Mathematics. The CCSS begin by listing eight general standards for mathematical practice (Table 1 lists the headings for each standard). A “mathematical practice” is something people do using mathematics in the real world, such as creating an argument, using a spreadsheet, or constructing a model. To demonstrate these practices, students need to use mathematics for problem-solving and understand the relationship between “equations, verbal descriptions, tables, and graphs” (Standard 1). They also need to look for structure and patterns.

The next 76 pages of the Mathematics Document list grade-level content standards, which are specific concepts and skills. The content standards “are a balanced combination of procedure and understanding” (CCSSI, 2010b, p. 8). Understanding is important, because “without a flexible base from which to work, [students] may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical
situations, use technology mindfully to work the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut” (CCSSI, 2010b, p. 8).

The first standard for kindergarten is the ability to count to 100 by ones and by tens, but students also need to understand that number names represent the quantity of something and comprehend the meaning of addition and place value. By high school, students need to understand such things as exponents and matrices, use spreadsheets, create equations that represent constraints, and solve equations algebraically and graphically. In geometry, they need to prove theorems and know formulas for shapes but also understand concepts such as congruence and similarity from the perspective of geometric transformations. They need to use algebra, geometry, and statistics to model real-world situations, for example “savings account balances” or understanding “bacterial colony growth.” These examples are meant to give readers a flavor for the Common Core State Standards in mathematics, but not described are the carefully designed learning progressions in the standards from one grade to the next.

**Nevada Academic Content (NVAC) Standards.** The NVAC for ELA and mathematics are essentially the Common Core State Standards. State regulations specifically reference the CCSS except for high school mathematics, where specific standards are described in the code. The NVAC standards can be found at: [http://www.doe.nv.gov/Curriculum_Standards/](http://www.doe.nv.gov/Curriculum_Standards/)

Districts in Nevada initially implemented various portions of the new standards from 2011 to 2015. A recent survey of districts by the Nevada Department of Education asked each district to self-assess the degree to which it has implemented the standards by aligning curricula, materials, and district assessments to the standards and providing professional development to teachers and administrators. Three districts indicated complete or near-to-complete
implementation (Eureka, Washoe, and Lyon), one with incomplete (60% or less) implementation, and the remaining 12 mostly partial implementation. The largest area of incomplete implementation was administrator preparation (4 districts) followed by assessment in ELA (3 districts). The largest area of complete implementation was assessment (5 districts) followed by teacher preparation (4 districts). It must be emphasized that these are self-reports and do not necessarily reflect the quality of preparation or alignment. More rigorous research should be conducted in this area.

**Research Evidence Underlying the Standards**

As the CCSS have been implemented throughout most of the nation, opposition to them has grown. In Nevada, the organization “Stop Common Core Nevada!” claims on its website that the standards are not research based (SCCN, 2014). In fact, there is substantial research underlying the standards, as detailed below. However, it is important to distinguish the standards themselves from instructional recommendations made in additional documents published by some of the authors of the CCSS (such as Student Achieve Partners). These additional recommendations were not necessarily formally adopted by the state of Nevada and may have varying amounts of empirical evidence in support of their effectiveness. It is also important to distinguish between the standards and specific curriculum materials based on the standards. The effectiveness of those materials may or may not have been tested.

**Mathematics.** Regarding evidence in support of the instructional assumptions underlying the standards in mathematics, there is a large body of empirical evidence supporting the need for balancing procedural and conceptual instruction (Rittle-Johnson, Siegler, & Alibali, 2001). There is also evidence on effective ways to do this (Moss & Case, 1999), although some methods require skilled and knowledgeable teachers (Ball & Forzani, 2011). There is substantial
evidence for some, though not all, of the mathematical learning progressions reflected in the standards (Daro et. al., 2011). Some are based on international comparisons and on conjectures based on the best available evidence, even though the evidence may not be conclusive. Finally, there is a section of the high school Common Core Standards related to transformational geometry; the results of empirical studies on this approach are mixed (Hirschhorn, Thompson, Usiskin, & Senk, 1995; Kort, 1971; Usiskin, 1972). (The reader should note that transformational geometry does not explicitly appear in the state regulations regarding NVAC and thus this approach does not appear to be clearly mandated in Nevada.)

**ELA and Related Subjects.** There is substantial empirical evidence supporting a balanced approach in the early elementary grades and emphasizing both phonics and reading comprehension (Pressley, 2006). There is also evidence to support how various aspects of reading (vocabulary, grammar, reading comprehension, speaking, and listening) should build on one another (CCSSI, 2010a, Appendix A).

Research has also shown that one of the largest predictors of reading comprehension is background knowledge (Recht & Leslie, 1988), and this principle is reflected in the CCSS’s emphasis on using reading, writing, and discussion of a topic or theme to gain knowledge, which is then used to understand related texts. There is also considerable evidence that the use of student-generated questions and critical thinking to understand and write about texts improves student learning and motivation (Bruning, Schraw, & Norby, 2011). Furthermore, there is evidence that teachers sometimes underestimate students’ ability to read complex texts (Shanahan & Duffett, 2013) and that sustained exposure to complex expository text is necessary to build students’ “skill, concentration, and stamina” (CCSSI, 2010a, Appendix A, p. 4). The standards do not address how to motivate students to read complex texts but leave it up to
teachers’ professional judgment. There is a body of research on how best to motivate and engage students to read (Guthrie, McRae, & Klauda, 2007; Hulleman, Godes, Hendricks, & Harackiewicz, 2010; Lent & Gilmore, 2013; Purcell-Gates, Duke, & Martineau, 2007).

One instructional approach that has generated some controversy is “close reading.” The technique is not, however, contained in the CCSS except for a mention in Anchor Standard 1 of reading texts “closely.” Rather, the close reading technique was defined and advocated by Student Achieve Partners, led by David Coleman, one of the authors of the CCSS (although close reading has been defined in different ways by different authors, Porter-Magee, 2014). In theory, the technique may help students do better in reading short passages, such as those found on tests, but not necessarily on broader literacy outcomes. A literature review showed little empirical research on the general effectiveness of this specific technique (Hinchman & Moore, 2013), although it may help students prepare for college-level English classes. With respect to learning to read, research does support the need for students to read a text closely enough that they are extracting some meaning from it (Kintsch, 1998), and this may require students to slow down their reading, reread text passages, and generate and/or answer questions about the texts. There are various methods for fostering reading comprehension (Palincsar & Brown, 1984), and close reading is but one of these.

**Summary.** An analysis of the available literature shows there is substantial research evidence supporting many aspects of the standards but not all. The standards do not, however, primarily prescribe specific instructional methods or a curriculum, although they do present some guiding principles and learning progressions. It is important for educators to continually assess the instructional techniques they use for their impact on student learning. Such evaluation is especially important because much of the existing research is based on carefully designed
studies using small- and medium-sized samples but not on how these innovations can be scaled up effectively for large-scale implementation.

**Formative Assessment and Evaluation of NVAC Standards Implementation**

One of the most critical components of effective implementation of the NVAC standards is formative assessment and evaluation conducted at all levels of the educational system. *Formative assessment and evaluation* involves examining how a practice, program, or policy is working and its effect on student learning outcomes, so as to make a practice, program, or policy work better. (It differs from summative assessment/evaluation, which is concerned with an overall judgment of whether the practice, program, or policy is worth continuing.) *Levels of the educational system* refer to the classroom, department, school, district/school board, region, and state and federal levels of governance.

Formative assessment at the classroom level involves teachers using a range of indicators (test results, oral questioning, observation, homework, student projects, and discussions) to assess to what extent students understand a concept or skill and to adjust their teaching methods accordingly. Research has found it to be one of the most powerful instructional practices in promoting student learning (Hattie, 2009). Formative assessment is extremely important when teachers implement new standards and new instructional innovations (Calfee, Wilson, Flannery, & Kapinus, 2014). Teachers need to understand the pedagogical principles underlying the innovation so they can make the necessary adjustments to their teaching (and the innovation) to ensure success (Brown & Campione, 1996). Without formative assessment, the effectiveness of an innovation can be undermined. Teachers need—to varying degrees—professional development on formative assessment and principles underlying new instructional techniques, and professional development programs themselves need formative assessment to ensure
teachers (and ultimately students) are learning what they need to. Districts and schools need to evaluate curriculum materials they purchase (e.g., textbooks, novels, trade books), the manner in which professional development is provided, and how reform efforts are being implemented. The state needs to continuously assess these issues, as well, but also needs to evaluate assessment and accountability systems to ensure that these systems are aligned with the new standards and are actually having positive effects, rather than negative or no effects, on other levels of the educational system, especially student learning. Likewise, the federal government needs to formatively evaluate its laws and regulations (e.g., waiver requirements) for appropriateness.

These points would be applicable even if new standards were not being implemented, but they become essential during the implementation of major reforms such as the NVAC standards. The purpose of this section is to identify some issues that a statewide formative evaluation of the NVAC implementation should address. Such an evaluation could be funded as one large study or as a series of different studies conducted by different parties that address separate issues. This list of issues was generated by preliminary research in which the author contacted administrators in all 17 Nevada school districts as well as in the Regional Professional Development Programs (RDPDs), interviewed teachers, and reviewed literature about how the CCSS are being implemented across the country.

**Some Important Issues**

1. **Teacher and Administrator Understanding of the Standards.** During the last 30 years, several states (e.g., California, Michigan) have implemented curriculum standards or frameworks similar to the new CCSS. Studies of these efforts have found that educators interpreted state standards in vastly different ways, often in ways inconsistent with the intent
There is preliminary evidence that the implementation of the CCSS may again often be off the mark (Calfee et al., 2014). Anecdotal reports have shown teachers misinterpreting the math standards as not emphasizing or even rejecting traditional mathematical algorithms, when in fact the standards emphasize both traditional algorithms as well as alternatives that incorporate mental shortcuts or that are more understandable. Many educators are focusing upon “close reading” (mentioned briefly in Anchor Standard 1) while neglecting the call for students to read broadly, skim, and summarize texts, to write broadly, and to conduct and present research. Many teachers may be focusing on specific grade-level standards and treating them as isolated skills and competencies, without addressing how these skills should be used in combination to read, discuss, think, write, and make presentations about great works of literature and rich informational texts, and for conducting research projects (Calfee et al., 2014; Porter-Magee, 2014).

2. **Balance of Literary and Expository Text.** There is evidence that many educators have been misinterpreting the CCSS’s recommendation for a balance between informational and literary texts as applying solely to English teachers at the secondary level and not to the entire school curriculum (Shanahan & Duffett, 2013). Rather, the CCSS recommend that, across the entire school curriculum, the balance should be 50%-50% at the elementary level in grade 4 and, by grade 12, 30% literary and 70% informational. (These percentages are based on the division of test items in a national assessment known as NAEP, a rationale that some have questioned, Ravitch, 2013.) The standards state that “a significant amount of reading of informational text take place in and outside the ELA classroom” (CCSSI 2010a, p. 5, emphasis added), which is why the ELA/Literacy Document also applies to history/social
studies, science, and technical subjects. However, there have been some reports that secondary ELA teachers believe that teaching informational texts is solely their responsibility. More research is needed to determine how educators in different districts and schools are interpreting the balance requirement, what is actually occurring in different ELA classrooms, how the responsibility for teaching expository text is being shared among teachers in other subject areas, and whether ELA teachers are adequately prepared or motivated for their new responsibility. Cases demonstrating effective collaboration among ELA and other teachers should continue to be identified and, if necessary, state regulations clarified. The Nevada System of Higher Education should provide additional input as to what balance is needed, in its view, to best prepare students for college.

3. **Professional Development.** Teachers and administrators need professional development (PD) on exactly what is required by the new standards, on instructional methods for teaching the standards, and on using formative assessment to implement the standards. A recent report by the Guinn Center for Policy Priorities and Nevada Succeeds (Carreón & Rau, 2014) found that the PD system in Nevada is fragmented and of inconsistent quality. Effective PD requires follow-up sessions tied to classroom practice, but such follow-up often does not occur. Many have also made the argument that PD in Nevada is grossly underfunded. Furthermore, training of administrators is lagging that of teachers (NDE, 2014), which in some cases causes administrators to fail to understand or support new practices taught to teachers or to mandate practices or the use of instructional materials of low quality. A formative evaluation of NVAC implementation could help identify specific instructional areas where more PD is needed and how formative evaluations currently used by PD providers could be improved. Carreón and Rau found that evaluation of PD programs in
Nevada is generally weak, relying mostly on surveys of teacher satisfaction, although there are exceptions where student outcomes data are also used (e.g., SNRDPD, 2013). The state’s Common Core State Standards Steering Committee (2013) called for the development of a statewide, coordinated plan of action for professional development.

4. **Teacher Professional Judgment.** There is abundant research to indicate that effectively implementing instructional innovations requires professional judgment, problem-solving, and formative assessment on the part of teachers (McLaughlin, 1990; Reeves, 2014). For example, Carreón and Rau (2014) point to teacher professional learning communities as a promising model of PD when implemented well. (These involve small or large groups of teachers problem-solving with one another on how best to implement instruction.) The new standards can be implemented in ways that augment teachers’ professional judgment about how to teach the standards or in ways that diminish it (through top-down mandates from administrators). In addition to the NVAC, Nevada is also implementing new statewide assessments and school accountability systems, which further impact and potentially constrain teacher professional judgment. The alignment of these components with one another, and how teacher professionalism is being enhanced or degraded, needs to be carefully examined.

5. **Curricular and Instructional Materials.** A recent survey of school districts also identified a lack of instructional materials aligned with the NVAC as a key implementation problem (NDE, 2014). Instructional materials include textbooks and readers but also books, newspapers, and other materials that should be used to teach the NVAC standards. Because most states have adopted the CCSS, there is intense pressure on publishers to claim that their textbooks are aligned with the new standards, even when such alignment is limited and
superficial (Cristol & Ramsey, 2014). To properly implement the CCSS, materials in ELA must be of appropriate grade-level complexity, provide ways to support struggling learners, be engaging and interesting, be organized around themes that allow students to accumulate background knowledge, and include activities that support writing, discussion, research projects, and reading expository texts. The math standards call for certain learning progressions and for learning activities that promote conceptual understanding, skill development, and mathematical practices. Furthermore, homework activities should not be confusing to parents, so that they can help their children. This is a tall order. Because adopting new textbooks is expensive, some school districts have been hesitant to purchase new materials until publishers develop higher-quality textbooks that are better aligned with the standards than is currently the case. Some school districts are relying on teacher-developed lessons and materials that are shared on the Internet (for example, in a platform called Edmodo), but locally developed materials can vary greatly in quality and are not a substitute for a carefully sequenced curriculum.

Much of the current public backlash against the CCSS can likely be traced back to poorly designed curriculum materials that were sent home with children and found confusing by parents. The problem in Nevada is not with the NVAC standards but with the lack of well-designed curricula to support them. Publishers such as Pearson Education are in the process of developing new materials, but it takes time. Although Chapter 110 of the Nevada Revised Statutes (2011) directed the Nevada Department of Education to develop a “model curriculum,” these materials and modules need to be evaluated formatively just like other instructional materials. Teachers and administrators also need an opportunity to evaluate the materials (there are currently some online resources that can be used for this purpose, see
Rothman, 2011, p.142). Any statewide formative evaluation would need to analyze what implementation problems (or successes) can be linked to the availability of high-quality instructional materials as opposed to other factors.

6. **State-Mandated Testing.** At the time of this writing, Nevada was planning to use tests developed by the Smarter Balanced Assessment Consortium (SBAC) to assess achievement in grades 3-5 and 8 and the ACT test to assess achievement in Grade 11. Four statewide, end-of-course exams in high school will also be developed in mathematics and ELA. Test developers promise that the content of these tests are aligned with the new standards, but these claims need to be evaluated. (The American Institutes for Research is currently evaluating the alignment of the SBAC.) The SBAC is composed primarily of computer-adaptive, multiple-choice tests and a limited number of classroom-based performance tasks. The performance tasks require students to do something in the classroom, such as writing an essay drawing on multiple texts, or in mathematics constructing a comprehensive written response to a problem scenario involving mathematical modeling, argumentation, and justification. The SBAC will eventually also contain some materials that can be used for classroom-level formative assessment.

Because results on state-mandated tests are used, in part, to evaluate teachers and to rate schools, there is an incentive for teachers to align their instruction to the type of items on these tests. It can be argued that the content of these tests is therefore more influential than the standards themselves. Students tend to receive less instruction on topics, skills, and subjects not covered by the tests. For example, over the past decade, intensive testing in the areas of reading and mathematics has resulted in less instruction provided in science, social
studies, art, and music (NAE, 2009). Furthermore, it is much easier to test basic skills with multiple-choice tests than it is to test critical thinking, creative, and communication skills.

Testing systems have effects on teachers’ and administrators’ educational practices. These effects can be positive, negative, or null (meaning the system has no effect, which could be viewed as positive or negative, depending on one’s point of view). Only a system that has positive effects is considered to possess what is known as systemic validity. Although the SBAC and its contractors are performing extensive research on various aspects of their tests (for example the validity of the items, alignment with the standards, etc.), it is left to each state to conduct studies of systemic validity. Given the importance of assessment in successful implementation of the NVAC, the State of Nevada should consider funding a study of the systemic validity of the SBAC and ACT tests on the state’s educational system, because it is actually the assessment system (and not the NVAC standards themselves) that has the most direct effect on educational practices. State testing and accountability systems limit local control, and whereas the SBAC is intended to be less controlling than previous systems (which heavily skewed instruction toward lower-level basic skills and factual recall), the actual effect of implementing the SBAC and ACT tests has yet to be seen. A systemic validity study would allow policymakers to evaluate the effectiveness of the reform efforts and make adjustments in accord with agreed-upon values. In this way, a systemic validity study would be a type of formative evaluation of state education policy. See Sireci (2012) for recommendations of some elements of what a systemic validity study should include.

7. Accountability. A statewide systemic validity study should also address Nevada’s system of accountability. Accountability refers to the consequences that teachers, administrators, and/or school districts face depending on student test performance and other outcome
measures. Many states are struggling with the questions of (1) how to design an accountability system that is fair (given that there are many factors that affect educational outcomes that are not under educators’ control) and (2) how much to enforce accountability measures while new standards are being implemented. Some argue that teachers and administrators need a period of time to learn how to implement the standards, become familiar with the new tests, and make changes before they are held accountable (Sears, 2014). Others argue that accountability measures are needed up-front to ensure teachers take the new standards seriously. Deliberation and action on these issues should be informed by actual evidence of the effects of current policies at the classroom level. A systemic validity study is intended to provide useful information that can inform state-level policy. Evaluation should also address (1) the extent to which state-mandated assessments can and should be used formatively rather than summatively (to reward and punish schools) and (2) the extent that improvements can be made within the constraints imposed by the NCLB waiver criteria (USDE, 2012) and whether and how the waiver criteria should be modified through policy discourse or Congressional action.

**Existing Evaluations**

State-level planning and evaluation should take into account existing or planned evaluations of various aspects of the NVAC and related professional development and assessments, such as the following.

**District-Level**

1. The Washoe County School District is planning to conduct a formal evaluation of the general implementation of NVAC in the district during the 2014-15 school year. Early
implementation in Washoe County was described and evaluated by the Fordham Institute (Cristol & Ramsey, 2014).

2. The Lyon County School District is working with the WestEd organization to make sure its end-of-unit district assessments are aligned with the NVAC and then will use the results of these assessments to evaluate the standards’ implementation. Data are also being collected to evaluate “Mission Literacy,” a district initiative to ensure that students are reading and writing at deep levels consistent with the CCSS.

**State-Level**

3. WestEd is currently conducting an evaluation of the validity of Nevada’s Educator Performance Framework, which is used for teacher, administrator, and school accountability. The final report is due in June 2015.

**Consortium-Level**

4. The American Institutes for Research (AIR) is presently evaluating the alignment of the SBAC tests with the Common Core State Standards.

5. The consulting group Hanover Research in Washington D.C. is examining whether SBAC items and test structure are aligned to the CCSS and whether the test forms comprise a representative sample of Common Core content and skills. Its report should be released soon.

6. The Educational Testing Service will be conducting validity and reliability studies of the SBAC items.

7. The Fordham Institute will be studying how the SBAC tests compare to those of another state consortium, the Partnership for Assessment of Readiness for College and Careers
(PARCC), and to those of the Trends in International Mathematics and Science Study (TIMSS).

**Conclusions and Recommendations**

During the 2015 legislative session, the Nevada Legislature may be faced with the question of whether to continue the NVAC standards or repeal them. One argument made against the new standards is that they will result in too much uniformity in school districts' curricula (Beck, Balfe, & Olson, 2014), but the analysis here indicates that interpretation and implementation of the standards is already highly variable. Another argument is that there is a lack of evidence to support the standards, but a closer analysis of the history of their development reflects much of what is known about research-based best practices.

This paper has highlighted the critical importance of formative assessment and evaluation at every level of the educational system to successfully implement the new standards. Formative assessment is intended to identify both problems and solutions, so as to make implementation more effective. At the state level, policy deliberation and evaluation could address the following key issues: (1) assessing teachers’ and administrators’ understanding of the NVAC, (2) clarifying the expected balance between use of literary and expository texts in secondary ELA classrooms, (3) improving the quality and quantity of professional development provided to both teachers and administrators, (4) examining methods to strengthen teachers’ professional judgment and decision-making while maintaining accountability, (5) helping local education agencies monitor and evaluate the availability of high-quality instructional materials, (6) funding an evaluation of the systemic validity of new state-mandated tests aligned with the new standards, and specifically the effect of these tests on what is taught and how, and (7) determining the extent to which educators should be held accountable, and in what manner,
while they are learning to implement the new standards. The extent to which state-mandated assessments can and should be use formatively, rather than summatively, should also be examined.

Educators need stability to make educational reforms work (Kirp, 2013). Much time and resources have already been invested in implementing the NVAC standards, and educators need time to fully understand the standards and to examine how best to implement them. Formative evaluation of the standards is needed at all levels of the educational system, providing data that can inform the state’s educational policy-making.
Additional Resources

National

[Contains copies and summaries of the standards as well as other resources.]

[Gives a detailed history of the Common Core Standards.]


Student Achievement Partners website:  http://achievethecore.org/about-us.
[Contains information about the standards, professional development modules, research summaries, and other resources.]

[Contains various resources on instructional alignment, support, and implementation.]

Council of Chief State School Officers (CCSSO) website:
http://www.ccsso.org/What_We_Do/Standards_Assessment_and_Accountability.html
[Contains reports and other resources on the standards, assessment, and accountability.]

Smarter Balanced Assessment Consortium website:  http://www.smarterbalanced.org/
[Describes the assessment system, contains sample items, and provides a list of resources for engaging parents and the public at http://www.smarterbalanced.org/k-12-education/common-core-state-standards-tools-resources/]

State of Nevada

Nevada Department of Education:  http://www.doe.nv.gov/Curriculum_Standards/
[Website on the Nevada Academic Content Standards.]

[Contains detailed recommendations regarding many of the key issues outlined in this paper.]
References


Nevada Department of Education. (NDE, 2014). Presentation made to the State Board of Education, Carson City, NV.


