Why Massachusetts and California Must Retain Control Over Their Academic Destinies Part I: Review of Four Sets of English Language Arts Standards

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A Pioneer Institute White Paper

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I. Introduction

The case for national standards rests in part on the need to remedy the inconsistent purposes and inferior quality of many state standards and tests in order to equalize academic expectations for all students. The argument also addresses the urgent need to increase academic achievement for all students. In mathematics and science in particular, the United States needs much higher levels of achievement than its students currently demonstrate for it to remain competitive in a global economy. In 2009, with the encouragement of the U.S. Department of Education (USED) and the support of the Bill and Melinda Gates Foundation, the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) agreed to sponsor the Common Core State Standards Initiative (CCSSI) to develop mathematics and English language arts standards (ELA) for "voluntary" adoption by all states. In turn, USED decided to award up to 70 (of 500) points to states committing themselves to adopt Common Core's standards and the common assessments to be based on them in their 2010 applications for Race to the Top (RttT) funds. USED also decided to tie states' receipt of Title I funds, in a re-authorization of the No Child Left Behind Act (NCLB), to high school tests of college readiness.

In the past five months, the Pioneer Institute and the Pacific Research Institute have sponsored three White Papers that analyzed the evolving drafts of the two types and sets of standards that Common Core was developing: "college and career readiness standards" for common tests to determine preparedness for college-level work in mathematics and reading, and K-12 grade-level standards for grade-level tests in mathematics and English language arts.¹

 The White Paper issued in February 2010 pointed out deficiencies in Common Core's September 2009 draft of its college and career readiness standards and in its January 2010 draft of grade-level standards, which Common Core describes as a grade-by-grade "translation" of its readiness standards.

- The White Paper issued in April 2010 examined Common Core's March "public comment" draft to determine how much progress had been made in addressing deficiencies in both subjects and in both types of standards and to point out areas needing further revision so that Common Core's standards could serve as the basis for valid and reliable tests of college-preparedness as well as of grade-level progress toward that goal.
- The White Paper issued in May 2010 highlighted the low academic level Common Core has set for its college readiness standards and the lack of evidence to support this low level. It also suggested what changes should be made to both sets and types of standards so that test developers can develop tests that make college-readiness mean readiness for actual college freshman coursework.

On June 2, 2010, Common Core released the final version of its standards. The purpose of this White Paper differs from the purpose of the first three White Papers. This Paper seeks to determine whether Common Core's final standards provide a stronger and more challenging framework for the mathematics and English language arts curriculum than do California's current standards and Massachusetts' current (2001) and revised draft (2010) standards so that more students are prepared for authentic college-level work when they graduate from high school. It also discusses the implications of Common Core's standards for curriculum and textbook development, teacher preparation, and professional development in each state.

II. Why the Comparison with California and Massachusetts?

Although there are many reasons for comparing Common Core's standards with those in

California and Massachusetts, the central reason concerns the academic consequences of adopting its grade-level and "college and career readiness standards" for advanced mathematics coursetaking in each state's high schools. Both states are viewed as having more rigorous standards in both subjects than most other states.² California's mathematics standards have long been considered and used as the "gold standard" by which to judge other states' mathematics standards, while the Bay State's ELA standards have long been considered and used as the "gold standard" by which to judge other states' ELA standards. In addition, empirical evidence in both states attests to the effectiveness of their standards, although Massachusetts has much more evidence than California does. Use of high school mathematics and ELA standards that may be less challenging than, equally as challenging as, or only slightly more challenging than those each state now uses as the basis for competency tests for a high school diploma would translate into a larger number of students leaving high school unprepared for actual college-level work than is now the case. Why would this be the case?

Common Core changes what passing a test based on high school standards will signify. Current high school tests in most if not all states are designed to determine competency for a high school diploma, not college-level work, and state tests and their pass scores are based on standards designed with that purpose in mind. On the other hand, passing common tests based on Common Core's high school standards will deem grade 10 or 11 students competent for college-level work, not just a high school diploma, even though they have not yet taken the work they would normally take in their junior and/or senior years of high school.3 Moreover, results of other tests also reflecting these high school standards will be used by the National Center on Education and the Economy (NCEE) to encourage lower-achieving students who pass them to forgo the last year or two of high school to enroll immediately in an open admissions post-secondary degree program.⁴ These students are to be placed, or will expect placement, in credit-bearing—not remedial—courses since the tests they have passed have deemed them college-ready. Thus, standards that may be, at best, only somewhat more challenging than those now used for determining competency for a high school diploma will open a floodgate for college freshmen with even less knowledge and skill for actual college-level work than most of today's college freshmen, most of whom have completed grades 11 and 12.

A. California's Concerns: We discuss the situation for California and Massachusetts separately because each state has somewhat different reasons for looking carefully at the farreaching academic policies Common Core has built into its standards documents. As noted above, the first concern for California may well be about trading rigorous standards for standards that may or may not be equally rigorous but, either way, will serve as the basis for tests granting a higher academic status than "high school graduate" to those who pass them and enable grade 10 or 11 students to bypass grade 11 or 12. So far, there is no evidence that this may be beneficial to lowerachieving students. While formal requirements for college admission in California are three years of mathematics (Algebra I, Geometry, and Algebra II), only 25 percent of the students who take Algebra II in their junior year are fully or conditionally ready for non-remedial mathematics in college as determined by the Early Assessment Program, which is given in the junior year. But 88 percent of the grade 11 students who took Algebra II in grade 10 and then took an additional year of mathematics in their junior year are fully or conditionally college-ready.5 Not only is it desirable for students to take Algebra I in grade 8 so that they can take two more years of mathematics courses after taking Algebra II in grade 10, it is important for them to be able to take these additional mathematics courses in grade 11 and/or 12 because they contribute to college readiness.

California's second concern is whether Common Core's K-7 mathematics standards appear to

be sound enough to prepare all students for an authentic Algebra I course in grade 8, a state policy. Empirical evidence suggesting the effectiveness of the state's K-7 and Algebra I mathematics standards appears in the form of regularly increasing percentages of students taking and passing Algebra I in grade 8 at higher levels of performance.⁶

A third concern for California is the fact that as a textbook adoption state it has already invested a great deal in funding school-selected textbooks recommended as compatible with its standards. New sets of standards will necessitate huge costs for new textbooks and professional development, points recently noted by the Virginia Board of Education in its explanation for not adopting Common Core's standards.⁷

The fourth concern would be normal in any state with a well-developed set of support structures that over time appear to have facilitated an increase in student achievement. Large changes in state standards introduce a period of instability and misaligned support structures, with a possibly negative impact on student achievement. In both California and Massachusetts, a long period of stability in the state's standards – a decade or more - has enabled policy makers to pay attention to the development of strong and reliable state assessments and to the strengthening of teacher training programs, licensure tests, and professional development. The strength of these support structures in Massachusetts is well known, but California has also made large strides in these areas in the context of a large shift in its demographics. In the past 17 years, the percentage of Hispanic students grew from about 30 percent to over 50 percent while the percentage of those classified as white dropped from about 50 percent to 28 percent. A sudden change in state standards will undermine those support structures at a time of economic recession and may jeopardize recent increases in student achievement.

B. Massachusetts' Concerns: For Massachusetts, the first concern likewise arises from trading

rigorous standards for standards that may or may not be equally rigorous but, either way, will serve as the basis for determining readiness for college, not a high school diploma. Moreover, there is abundant empirical evidence suggesting the effectiveness of the state's current standards for all groups of students in both mathematics and ELA, and in science as well.8 The academic rigor of the state's annual assessments, which are based on the state's standards, has long been acknowledged as another major factor in increasing the academic achievement of the state's students. And its regulations for teacher preparation programs and licensure tests—also based on its standards—are considered among the most rigorous in the country. It is not clear that Common Core's standards could serve as an effective replacement for the standards now at the center of these systemically linked academic components since Common Core's standards have no track record of use anywhere, no research evidence to support them, and are not internationally benchmarked.

As in California, a second concern in Massachusetts is whether Common Core's K-7 mathematics standards appear to be sound enough to prepare all students for an authentic Algebra I course in grade 8. Although enrollment in an authentic Algebra I course in grade 8 is not state policy, many school districts mandate that all students take Algebra I in grade 8. More than 50 percent of the state's students enroll in Algebra I in or by grade 8, a percentage that has been increasing regularly in the past decade.

Although Massachusetts is not a textbook adoption state (i.e., schools choose—and pay for—whatever textbooks they wish), the textbooks and professional development a school pays for must be aligned with the state's standards for accountability if the school fails to achieve Adequate Yearly Progress (AYP) as part of NCLB. Because a large number of schools in Massachusetts have failed to achieve AYP, a considerable amount of money has been invested in textbooks and teacher training in the state.

New standards will require further investment in textbooks and professional development.

A fourth concern is a possible decline in advanced mathematics course-taking in high school by students in the broad middle third (or higher) of the state's high school-age population if Common Core's standards are adopted. If the common high school tests are no more (or only somewhat more) rigorous than the state's current grade 10 tests (to be referred to as MCAS), students who leave high school after grade 10 or 11 to enroll in a college degree program may be even less prepared for authentic college-level work than those who now complete local high school graduation requirements. That is because students who pass the new tests will be deemed ready for creditbearing freshman coursework in college even though they have not completed their last year or two of high school and taken more advanced mathematics and English coursework there.

A 2008 report by the state's Board of Higher Education (BHE) and Department of Education found that 50 percent of the students who had (1) passed the grade 10 mathematics MCAS test at the "Needs Improvement" level, (2) graduated from a public high school in 2005, and (3) enrolled in a public college in the fall of 2005 had been placed in a remedial mathematics course.9 This means that the pass score for the grade 10 mathematics MCAS does not indicate college readiness. Overall, the figures have not improved much since 2005. As the 2008 report noted, regardless of performance level, 37 percent of the state's public high school graduates in 2005 had been placed in at least one remedial course in their first semester in a public college, and the figure was 36 percent for the freshman class entering in fall 2008.10

One source of this problem is the relatively small number of students in the state's public high schools who take a mathematics course in their senior year, as implied by the prominent recommendation in MassCore (a state-recommended high school course of study) that students take a mathematics

course in their senior year,11 despite the high percentage (82 percent) who have already taken Algebra II according to a Department study.¹² Only 29 percent of the state's school districts require four years of mathematics and the BHE does not require students who seek to enroll in a Massachusetts public post-secondary institution to take four years of mathematics in high school despite some data showing that students who take mathematics in their senior year are more likely to pass their first college mathematics course than those who don't.¹³ It is not surprising that many freshmen in public post-secondary institutions must enroll in a developmental (remedial) course; they may not have studied any mathematics at all for well over a year, taken a course beyond Algebra II, or done well in the Algebra II course they took. Nationally, only 61 percent of U.S. high school students take a mathematics course beyond Algebra II before graduation.¹⁴ Tests that allow grade 10 or 11 students who pass to be deemed college-ready and to enroll directly in a public post-secondary institution will do a disservice to the broad middle third of the state's high school-age population. They should be expected to take more advanced mathematics courses in their junior and senior years (e.g., Algebra II, trigonometry, or pre-calculus) before they matriculate at a state college.

A final concern is less directly obvious—the replacement of the current set of teacher licensure tests with easier ones. This is a long sought-after goal by those promoting a bill in the legislature to replace the state's current licensure tests with those sold by Educational Testing Service (i.e., PRAXIS tests). Once the state's standards are changed, there will be pressure to change and weaken the state's tests of subject matter knowledge, which assess prospective teachers on their conceptual understanding of the state's content standards in the field of their license. Instead of upgrading admissions policies, many teacher preparation programs would prefer to allow more academically underprepared students into their programs based on an evidencefree belief that at risk children do not need academically competent teachers. That less than 60 percent of prospective elementary teachers pass the state's new elementary mathematics test and that less than 60 percent of prospective early childhood teachers pass their general curriculum test are facts that do not seem to signal to teacher education faculty or to the Board of Higher Education that admissions policies to teacher preparation programs need to change, rather than the licensure tests that now assure parents that their children's teachers have adequate knowledge of the subject they teach.

III: Review of English Language Arts Standards

We analyzed four sets of ELA standards: California's 1997 ELA standards; Massachusetts's 2001 ELA standards, together with the 2004 supplement; Massachusetts's draft 2010 ELA standards; and Common Core's June 2010 ELA standards. California's standards have never been revised since they were approved in 1997. The 2004 supplement to the Massachusetts 2001 standards was developed to address NCLB's requirement for tests at every grade level from grade 3 to grade 8: the 2001 standards were designed for two-year grade spans, In 2008, Massachusetts again began the process of revising its ELA standards, as mandated by the Education Reform Act of 1993. But before the process was completed, Common Core's project had begun. A draft of the revised standards was sent to Common Core's draft writers in 2009 as a resource for their work, and for their final version they drew heavily on many standards in that 2009 draft (now dated 2010), although not with their original wording, grade-level placement, and, in far too many cases, meaning.

For the analysis of the four sets of ELA standards, we adapted the review form used in the 1997, 2000, and 2005 reviews of state English standards for the Fordham Institute. The review form used for the 2010 review is much shorter; the items eliminated were, for the most part, not relevant for the comparisons we intended to make. Most

of the 20 items retained for the 2010 review form are similar or identical in wording to their counterparts in the 2005 review form, as are the rubrics for the rating scale.¹⁵ We also retained the 0, 1, 3, and 4 rating scale used in the 2005 review. (A 2 was to be used only when it was completely unclear what was in a document.)

The following legend indicates the source of the standards reviewed on the following pages.

CC= Common Core 2010

CA= California 1998

MA= Massachusetts 2001/2004

DMA= Draft Massachusetts 2010

Review of Four English Language Arts Standards Documents

A. Reading Pedagogy and Independent Reading

1. It expects explicit and systematic instruction in decoding skills in the primary grades as well as use of meaningful reading materials and an emphasis on comprehension.

CC Rating: 3

Research in reading is clearly used to inform the acquisition of decoding skills. There is good coverage of key comprehension skills across subject areas, as well as use of meaningful reading materials. However, none of the objectives on phonics and word analysis skills in grades K-3 expects students to apply these skills both in context and independent of context to ensure mastery of decoding skills. Only in grades 4 and 5 are students expected to read accurately unfamiliar words "in context and out of context." This standard needs to be in the primary grades as well. Its placement at only grades 4 and 5 badly misinforms reading teachers in the primary grades.

CA Rating: 3

Research in reading is clearly used to inform the acquisition of decoding skills. There is good coverage of key comprehension skills across subject areas, as well as use of meaningful reading materials. However, none of the objectives on phonics and word analysis skills in grades K-3 expects students to apply these skills both in context and independent of context to ensure mastery of decoding skills.

MA Rating: 4

Research in reading is clearly used to inform the acquisition of decoding skills, and standards expect use of real and nonsense words in the primary grades to ensure mastery of decoding skills. There is good coverage of key comprehension skills across subject areas, as well as use of meaningful reading materials.

DMA | Rating: 4

Research in reading is clearly used to inform the acquisition of decoding skills, with standards that expect application both in context and independent of context in the primary grades to ensure mastery of decoding skills. There is good coverage of key comprehension skills across subject areas, as well as the use of meaningful reading materials.

2. The standards make clear that interpretations of written texts should be supported by logical reasoning, accurate facts, and adequate evidence.

CC Rating: 4

The standards indicate that interpretations of any text must be consistent with what the author wrote. Evidence is required for interpretations or claims for all texts.

CA Rating: 4

The standards indicate that interpretations of any text must be consistent with what the author wrote. Evidence is required for interpretations or claims for all texts.

MA Rating: 4

The standards indicate that interpretations of any text must be consistent with what the author wrote. Evidence is required for interpretations or claims for all texts.

DMA Rating: 4

Evidence is required for interpretations or claims for all texts. E.g., 5.N.5 "Use reasoning to determine the logic of an author's conclusion in a persuasive text and provide evidence from the text to support reasoning." 7.F.3 "Identify the theme of a story or novel, whether stated or implied, using evidence from the text."

3. It expects students to read independently on a daily basis through the grades, and provides guidance about quality and difficulty.

CC Rating: 4

Students are expected to read independently, and guidance is provided in Appendix B on quality and difficulty through the grades. However, there is no indication of who chose the titles in grades K-8 and whether they were independently vetted by literary experts, as were authors/titles in Appendices A and B in the Massachusetts 2001 and 2010 ELA documents.

CA Rating: 4

Independent reading is encouraged, quantity is spelled out per grade, and the document refers to lists of titles in an accompanying document.

MA Rating: 4

Independent reading is encouraged in Guiding Principle 3, and the quality of the reading is indicated in graded lists of chiefly authors in Appendices A and B.

DMA Rating: 4

Guiding Principle 3 encourages independent reading, and two graded lists of chiefly authors in Appendices A and B provide guidance on quality and difficulty.

B. Value of Literary Study

1. The standards enable English teachers to stress literary study more than informational reading at the secondary level.

CC Rating: 1

Nonfiction or informational reading has been weighted more than imaginative literature in ELA at all grade levels—with ten standards for the former and nine for the latter at all grade levels (not just at the elementary level). This proportion augurs a drastic decline in literary study in 6-12.

CA Rating: 3

There are about the same number of standards for literary reading as for non-literary reading at all grade levels, so literary study is unlikely to be weighted more through the grades. Moreover, since elementary teachers in self-contained classes usually teach reading in all content areas as well the ELA class, informational reading is apt to be taught more than literary reading in K-6 at present.

MA Rating: 4

There are more standards for literary study than for informational reading at all grade levels. This helps to balance that fact that elementary teachers in self-contained classes usually teach reading in all content areas as well the ELA class so that informational reading is already apt to be taught more than literary reading in K-6.

DMA Rating: 4

There are more standards for literary study than for informational reading at all grade levels. This helps to balance that fact that elementary teachers in self-contained classes usually teach reading in all content areas as well the ELA class so that informational reading is already apt to be taught more than literary reading in K-6.

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2. The document indicates that what students are assigned to read should be chosen on the basis of literary quality, cultural and historical significance, or potential to promote understanding of more complex ideas and language.

CC	Rating:	4
\sim	i ivaning.	-

Yes. See the sidebar note on p. 35 and Appendix B.

CA Rating: 1

There is no clear statement to the effect that all assigned texts should be chosen for literary quality, cultural and historical significance, or intellectual growth.

MA Rating: 4

Guiding Principle 3 and Appendices A and B make it clear that the English curriculum should draw on texts that have intellectual, cultural, historical, civic, and literary merit at all educational levels.

DMA Rating: 4

Guiding Principle 3 and Appendices A and B make it clear that the English curriculum should draw on texts that have intellectual, cultural, historical, civic, and literary merit at all educational levels.

3. The document promotes study of American literature.

CC Rating: 3

It does so only in grades 11/12. It is not mentioned in earlier grades where it would be appropriate (e.g., American folktales, American tall tales)

CA Rating: 3

It is mentioned in the standards only for grades 11-12.

MA Rating: 4

American literature is described in an inclusive way with illustrative works and authors in Appendix A and Appendix B.

DMA Rating: 4

American literature is described in an inclusive way, with illustrative works and authors in Appendix A and Appendix B, with examples of titles or authors for high school standards, and for specific genres (e.g., American folktales in grade 2; American tall tales in grade 4).

C. Organization and disciplinary coverage of the standards

1. They are grouped in categories and subcategories reflecting coherent bodies of scholarship or research in reading and the English language arts.

CC Rating: 3

The "college and career readiness anchor standards" governing the grade-level standards are not as a group internationally benchmarked or supported by research evidence or scholarship. There is no evidence for the effectiveness of a skills-based framework for grade-level standards. The ten CCRAS for Reading are organized under an incoherent group of categories. In contrast, the grade-level standards are organized under a coherent group of categories, with major subcategories under each whose titles for the most part reflect coherent bodies of scholarship or research.

CA Rating: 4

Major categories and subcategories reflect coherent bodies of scholarship or research.

MA | Rating: 4

Major categories and subcategories reflect coherent bodies of scholarship or research.

DMA Rating: 4

The 2001 ELA standards have been re-organized and combined in strands and sub-strands that continue to reflect coherent bodies of scholarship or research in reading and ELA.

2. The standards clearly address listening and speaking. They include use of various discussion purposes and roles, how to participate in discussion, desirable qualities in formal speaking, and use of established as well as peer-generated or personal criteria for evaluating formal and informal speech.

CC Rating: 3

They address most of these elements but do not address the use of established criteria for evaluating formal and informal talks, presentations, or speeches.

CA Rating: 3

Most of the above areas are adequately covered. Standards need to include more about the different purposes of speech (e.g., conversation, discussion, formal presentations, debate, oratory, improvisation) and systematically increase the expectations for each grade level starting in K. They do not address the use of established criteria for evaluating formal and informal talks, presentations, or speeches.

MA Rating: 3

Most of the above areas are adequately covered. Standards need to include more about the different purposes of speech (e.g., conversation, discussion, formal presentations, debate, oratory, improvisation) and systematically increase the expectations for each grade level starting in K.

DMA | Rating: 4

These standards go far beyond what was in the 2001 document to highlight participatory knowledge and the listening and speaking skills needed for civic engagement.

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3. The standards clearly address reading to understand and use information through the grades. They include progressive development of reading skills, knowledge and use of a variety of textual features, genres, and reading strategies for academic, occupational, and civic purposes.

CC	Rating: 3
clearly dis	ards clearly address reading to understand and use information through the grades. They do not stinguish modes of organization from structural elements of an expository text and misinform by teachers.
CA	Rating: 4
All of the	above areas are adequately covered.
MA	Rating: 4
All of the	above areas are adequately covered.
DMA	Rating: 4
All of the	above areas are adequately covered.

4. The standards clearly seek to develop strong vocabulary knowledge and dictionary skills.

CC Rating: 1

Although the vocabulary standards highlight specific figures of speech and rhetorical devices, they do not teach dictionary skills through the grades, use of glossaries for discipline-specific terms, and some kinds of words that must be taught (e.g., foreign words used in written English that do not appear in an English language dictionary). Common Core leans heavily on use of context to determine the meaning of unknown words but provides no standards on different ways to teach use of context for this purpose. In addition, one key standard contains an inaccurate description and examples of the difference between the connotative and denotative meaning of a word.¹⁶

CA Rating: 3

Although vocabulary standards highlight specific figures of speech and rhetorical devices, there are no standards for dictionary skills or use of a glossary for technical or discipline-specific terms.

MA Rating: 4

The standards develop dictionary skills through the grades, pay attention to many different kinds of vocabulary groups at each educational level, and teach ways to use context.

DMA Rating: 4

The standards develop strong vocabulary knowledge and dictionary skills from K-11, clarify the use of glossaries for technical and discipline-specific terms, and teach ways to use context

5. The standards clearly address the reading, interpretation, and critical evaluation of literature. They include knowledge of diverse literary elements and genres, use of different kinds of literary responses, and use of a variety of interpretive and critical lenses. They also specify those key authors, works, and literary traditions in American literature and in the literary and civic heritage of English-speaking people that all students should study because of their literary quality and cultural significance.

CC Rating: 1

Most of the above areas are covered but very unsystematically. Most literature standards lack examples of authors, works, literary traditions, and literary periods. Only a few standards indicate specific cultural content (at grades 11-12) and only a few examples are given in Appendix B.

CA Rating: 3

Almost everything is covered except for key authors or works and specifics about reading level at each grade. A few standards in grades 11 and 12 are content-rich and do require study of literary traditions in American literature as well as of literary periods in other traditions. Reference is made to lists of works in another document, but the lists vary widely in reading levels.

MA Rating: 3

All formal aspects of literary study are covered. Appendix A and Appendix B contain a list of key authors or works in American literature, British literature, and world literature, both contemporary and past, to outline the substantive content of the English curriculum through the grades. Guiding Principle 3 and the introduction to the Reading and Literature Strand indicate that the "substantive content of English language arts programs should be derived in large part from these appendices." However, the standards by themselves do not point to key groups of authors, works, literary periods, and literary traditions to outline more precisely the actual content of the high school English curriculum.

DMA Rating: 4

The literature standards distinguish through sub-strands the major types of imaginative literature (poetry, drama, fiction, and traditional literature) and cover all formal aspects of literary study. Appendix A and Appendix B contain lists of key authors in American, British, and world literature, contemporary and past, to outline the substantive content of the English curriculum through the grades, especially at the high school level, and Guiding Principle 3 points to their use.

6. The standards clearly address writing for communication and expression. They include use of writing processes, established as well as peer-generated or personal evaluation criteria, and various rhetorical elements, strategies, genres, and modes of organization.

CC Rating: 3

Most aspects of writing are addressed well. But there is nothing on the use of established or peer-generated criteria for evaluating writing or written presentations. The sub-strand on "argument" confuses argument with expression of opinion in the elementary grades, confuses academic argument with persuasive writing throughout, and doesn't clarify the key concepts of persuasive writing: purpose and audience. There is no scholarship from Aristotle or Brooks and Warren to Kinneavy to support these three "types" of writing as they are described and thus this strand badly misinforms ELA teachers throughout the grades.

CA Rating: 3

Most aspects of writing are addressed well. But there is nothing on the use of established or peer-generated criteria for evaluating writing or written presentations.

MA Rating: 4

All aspects of writing are addressed well. There are standards on the use of established criteria as well as peer-generated criteria for evaluating writing.

DMA Rating: 3

Most aspects of writing are addressed well. But there is nothing on the use of established or peer-generated criteria for evaluating writing or written presentations.

7. The standards clearly address oral and written language conventions. They include Standard English conventions for sentence structure, spelling, usage, penmanship, capitalization, and punctuation.

CC Rating: 1

Oral and written language conventions are addressed, but the vertical progressions don't always make sense, many standards are placed at inappropriate grade levels, and much of the linguistic terminology is inappropriate at the grade level it appears (e.g., grade 2: "Use adjectives and adverbs, and choose between them depending on what is to be modified." Or in grade 4: "Use modal auxiliaries to convey various conditions."

CA Rating: 4

All of the above areas are adequately covered and in student- and teacher-friendly language.

MA Rating: 4

All of the above areas are adequately covered and in student- and teacher-friendly language.

DMA Rating: 4

All of the above areas are adequately covered and in student- and teacher-friendly language.

8. The standards clearly address the nature, dynamics, and history of the English language. They include the nature of its vocabulary, its structure (grammar), the evolution of its oral and written forms, and the distinction between the variability of its oral forms and the relative permanence of its written form today.

CC Rating: 3

There is nothing on the distinctions among oral dialects or between oral and written forms of English, or on the history of the English language. Standards on word origins and etymologies are useful but need to be accompanied by standards teaching dictionary skills.

CA Rating: 4

In grade 8, a vocabulary standard expects students to "understand the most important points in the history of the English language and use common word origins to determine the historical influences on English word meanings." Good use of morphology to illustrate word meaning and development.

MA Rating: 4

All of the above areas are addressed specifically in the standards for Language Study.

DMA | Rating: 4

These aspects of the English language are addressed in the strands for Vocabulary and Concept Development and for Formal and Informal English, especially in relation to the origin of English words, the many foreign words used in written English, and the oral dialects used in literature and in various regions of the country and their differences with standard oral and written English.

9. The standards clearly address research processes, including developing questions and locating, understanding, evaluating, synthesizing, and using various sources of information for reading, writing, and speaking assignments. These sources include dictionaries, thesauruses, other reference materials, observations of empirical phenomena, interviews with informants, and computer data bases.

CC	Rating: 4
All of the	e above areas seem to be adequately covered although it is not clear.
CA	Rating: 4
All of the	e above areas are adequately covered.
MA	Rating: 4
There ar	re grade-level standards outlining specific developmental objectives across educational levels that
address t	the phases and components of the research process.
DMA	Rating: 4
There is	a complete strand on the research process outlining specific developmental objectives across

There is a complete strand on the research process outlining specific developmental objectives across educational levels that address the phases and components of the research process.

D. Quality of the standards

1. They are clear, specific, and measurable (i.e., they can lead to observable, comparable results across students and schools).

CC Rating: 3

There are many vague standards with unclear meanings and inconsistently interpretable meanings. E.g., "Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style." What kind of texts does the writer have in mind? What will be learned if the texts address very different topics? E.g., "Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature." How much reading of world literature must precede the reading of a specific work that is to be analyzed for the author's point of view? Thus, only some standards are measurable as is. There are also many standards with inappropriate or misleading examples, e.g., Informational reading standard 9, grade 6: "Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person)." This standard needs a sensible example. Moreover, in the primary grades, some standards require teachers to prompt or observe without specifying what would constitute meeting the standard.

CA Rating: 4

Overall, they are clear, specific, interpretable, teachable, measurable, and reliably rated.

MA Rating: 4

Overall, they are clear, specific, interpretable, teachable, measurable, and reliably rated.

DMA Rating: 4

Overall, they are clear, specific, interpretable, teachable, measurable, and reliably rated.

2. They are of increasing intellectual difficulty at each higher educational level and cover all important aspects of learning in the area they address.

CC Rating: 3

Many standards do not show meaningful increases in intellectual difficulty over the grades. K-2 standards are weak due to overuse of "prompted" or "unprompted" as the key feature of difficulty; prompted learning indicates the level of independence associated with student performance. In addition, many grade-level standards are simply paraphrases or repetitions of the governing CCRS, especially in grades 6-8. It is not clear why grades 6-7 contain standards calling for significant amounts of time to be devoted to comparing literary works to movies and staged productions.

CA Rating: 3

Most of the focused standards show meaningful increases in difficulty over the grades and address the important aspects of learning in the area, although it is not clear how demanding the standards in grades 10 and 11 really are without specific grade levels or titles of key works to illustrate a grade level.

MA Rating: 4

The standards in each strand show meaningful increases in difficulty and/or complexity through the grades related to skill development.

DMA Rating: 4

The standards in each strand show meaningful increases in difficulty and/or complexity through the grades related to skill development.

3. They index or illustrate growth through the grades for reading by referring to specific reading levels or to titles of specific literary or academic works as examples of a reading level.

CC Rating: 4

While the reading and literature standards only occasionally provide examples of specific texts or authors, Appendix B contains a long list of illustrative titles for each grade for the main genres.

CA Rating: 3

The kinds of literary techniques taught often suggest complex texts, but no authors or works or reading levels are given (except for the mention of Macbeth). Reference is made to lists of titles in another document, but the lists are very long and include a wide range of reading levels.

MA Rating: 4

The reading and/or literature standards are almost always accompanied by examples of specific texts and/or authors. The examples are stronger at higher grade levels. There are also two appendices with recommended lists of authors divided into educational levels.

DMA Rating: 4

The standards do both, especially at the high school level. Appendices A and B contain lists chiefly of authors divided into grade spans from K-12. The high school reading and literature standards contain general statements indicating difficulty level (e.g., classical Greek plays, or classical epic poetry) or list specific authors and/or titles as examples.

4. They illustrate growth expected through the grades for writing with reference to examples and rating criteria, in the standards document or in other documents.

CC Rating: 1

Appendix C is a collection of annotated student writing samples at all grade levels. However, no rating criteria, say, on a 1 to 6 scale, are offered by grade level—a serious and puzzling omission. Based on the annotations and the compositions themselves, it is clear what the best and least developed compositions are. But it is not at all clear how teachers are to develop common expectations for somewhat above grade-level, about grade-level, and somewhat below grade-level performance at a particular grade level (i.e., for most of the age cohort).

CA Rating: 4

Criteria and examples of student essays appear on the department's website.

MA Rating: 4

Writing samples and the criteria for rating them are maintained on the Department's website in connection with its testing program.

DMA Rating: 4

Writing samples and the criteria for rating them are maintained on the Department's website in connection with its testing program.

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5. Their overall contents are sufficiently specific, comprehensive, and demanding to lead to a common core of high academic expectations for all students in the state.

CC	Rating:	1
	Raumg.	1

Common Core's relatively content-empty reading and literature standards cannot lead by themselves to a common core of high academic expectations. They cannot frame an academic curriculum. The basic work will have to be done at the local level unless the testing consortia pre-empt curriculum decision-making at the local level in order to develop test items with a knowledge base to which skills can be applied.

CA Rating: 3

For the most part. California's standards require study of literary traditions in American literature as well as of literary periods in other traditions. However, because they do not specify key groups of works and authors that outline essential substantive content for the high school English curriculum, they can be interpreted in different ways by teachers and test developers and thus fail to lead to a common core of high academic expectations for all students.

MA	Rating:	4

Yes, these standards can lead and have led to a common core of high academic expectations.

DMA | Rating: 4

These standards can lead to a common core of higher academic expectations than the 2001 standards.

E. Summary

Table 1: Average Points per Section and Total Average for Four ELA Documents

	CC	CA	MA	DMA
Reading Pedagogy and Independent Reading	3.6	3.6	4	4
Value of Literary Study	3	2.3	4	4
Organization and Disciplinary Coverage of the Standards	2.4	3.5	3.7	3.8
Quality of the Standards	2.5	3.5	4	4
Total	2.7	3.4	3.9	3.9

IV. Concluding Remarks on English Language Arts Standards

A. Can Common Core's literature and reading standards in grades 9-12 prepare students for college and career better than those in California and Massachusetts?

Common Core provides the right words for the grades 6-12 standards in a sidebar on p. 35: "To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries..." Common Core also provides a lengthy Appendix B containing lists of "Texts Illustrating the Complexity, Quality, and Range of Student Reading," with dozens of titles of important works for each grade level. Nevertheless, while Common Core includes standards requiring reading of a Shakespeare play and seminal works in American literature in grades 11-12, its grade-level standards do not ensure adequate preparation through the grades for studying these works or sufficient literary and cultural knowledge for authentic collegelevel work. One searches in vain for literary and cultural content through the grades that would lead to these standards. In sum, Common Core's high school standards fall well short of those in California and Massachusetts 2001 and 2010 in specificity of literary and cultural content.

For example, in grades 9-10, California expects students to "Identify Greek, Roman, and Norse mythology and use the knowledge to understand the origin and meaning of new words." Massachusetts has an entire K-12 strand in its 2001 and 2010 documents on myth, traditional narrative, and classical literature.

As for American literature, for grades 11-12, California wants a full course in American literary history, setting forth such intellectual objectives as:

a. Trace the development of American literature from the colonial period forward.

- b. Contrast the major periods, themes, styles, and trends and describe how works by members of different cultures relate to one another in each period.
- c. Evaluate the philosophical, political, religious, ethical, and social influences of the historical period that shaped the characters, plots, and settings.

Massachusetts 2010 goes beyond these general intellectual objectives to provide standards on American poetry, drama, and fiction in all literary periods in grade 11 and on British literary history, drama, fiction, and poetry in grade 12 (as in: "Demonstrate familiarity with major British poets and some of their poems in each period of British literary history"). Both its 2001 and 2010 documents refer to a list of major authors for study of American and British literary history in an Appendix.

Similar differences in cultural specificity appear in the informational reading strand. Common Core does require students to analyze U.S. documents of historical and literary significance for how they address related themes and concepts in grades 9-10, and to analyze U.S. documents of historical and literary significance in the 17tth, 18th, and 19th centuries for their themes, purposes, and rhetorical features in grades 11/12. But Massachusetts 2010 lays out more coherent progressions of standards (and throughout the grades). It expects seminal U.S. documents in the 19th and 20th centuries to be studied in grade 10 and follows up with such standards in grade 11 as: "Synthesize information from texts written in the 18th or 19th century or before to address ideas in foundational texts written in the 18th or 19th century (e.g., read selections from John Locke's Second Treatise on Government, Montesquieu's Spirit of the Laws, and Madison's Notes on the Constitutional Convention) and trace the history of the ideas presented in the Constitution of the United States." And in grade 12, students are to analyze texts that have worldwide historical and literary significance with respect to their

purposes, central arguments, and social, political, and cultural contexts.

In conclusion, if California and Massachusetts adopted Common Core's standards for their own, the intellectual demands on students in the areas of language and literature would be significantly weakened. Adopting Common Core's standards would also weaken the base of literary and cultural knowledge needed for actual collegelevel work now implied by each state's current or draft standards.

B. Can teachers teach Common Core's literature and reading standards in grades 9-12?

English teachers can clearly teach the literary content required in its 9-12 standards—one play by Shakespeare, one play by an American writer, and foundational works of American literature from the 18th, 19th, and early 20th centuries in grade 11 or 12. But Common Core expects English teachers to spend over 50 percent of their time addressing literary nonfiction and informational texts such as seminal U.S. documents and U.S. Supreme Court decisions. Although the 2010 draft Massachusetts standards also expect high school English teachers to address seminal U.S. documents and other 18th -century (or earlier) texts, its nonfiction/informational strand is only one of five literature/reading strands (i.e., requiring only 20 percent of their time on textbased study, not over 50 percent) and English teachers will be able to select and teach seminal documents they have often addressed (e.g., The Declaration of Independence or Letter from Birmingham Jail). Given what they are prepared to teach based on their undergraduate or graduate coursework, English teachers cannot teach to many of Common Core's informational reading standards and they are unlikely to try to do so for over half of the time they can allot to text-based study.

C. Who will be held accountable for teaching Common Core's Literacy Standards for History and Science on the common high school reading test? Common Core speaks with forked tongue on who will teach students to read informational texts. Its introduction (p. 8) indicates that history and science teachers are to teach the literacy standards in their subject areas. However, it also notes that its grades 6-12 standards require a "significant amount of reading of informational texts...in and outside the ELA classroom"(p. 5). Moreover, while illustrative titles of informational texts for grades 6-12 in the ELA section of its standards document are all labeled "literary nonfiction"—a comforting label for English teachers—illustrative titles of informational texts for ELA teachers in Appendix B are all labeled "informational"—which makes far more sense than "literary nonfiction" for a list that includes, at grades 11-12, for example, Thomas Paine's Common Sense, the U.S. Bill of Rights, and a book chapter by historian Richard Hofstadter-works that fit uncomfortably under the label of literary nonfiction. Anchor standard #7 ("Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words.") very clearly implies that ELA teachers are going to be teaching much more than literary nonfiction to satisfy Common Core's informational reading requirements at every grade level. Moreover, Common Core wants reading passages on high school college-readiness tests to reflect NAEP's distribution of passages for its high school reading tests: 70 percent informational, 30 percent literary (p. 5). It is unlikely that English teachers will be held accountable for only a little more than 30 percent of the Reading test score. It is more likely that English teachers will be held accountable for much more than 50 percent of the results on common Reading tests based on Common Core's college and career readiness standards.

D. What are the implications of Common Core's ELA standards for curriculum and textbook development, teacher preparation, and professional development?

Common Core's standards make a coherent K-12 ELA curriculum unattainable. Unlike standards

that point to the general cultural or literary knowledge (as well as the generic thinking and language skills) needed at each grade level, Common Core's "anchor" and grade-level standards not only provide no intellectual base or structure for a curriculum, they actually prevent one from emerging. The academic content of English as a K-12 subject area consists of the concepts that guide literary study (including nonfiction) through the grades (e.g., genres, subgenres, rhetorical and literary techniques and elements, literary periods, literary traditions). But the texts that teach these concepts cannot take up even half of the reading curriculum at each grade level if it is to address all of Common Core's reading standards with the weight it requires. What informational topics can contribute to coherent learning progressions from grade to grade in the over 50 percent of the reading at each grade level that is to be informational? What concepts can a progression of informational texts be based on for a coherent English curriculum in grades 6-12? Or is the ELA informational reading curriculum to cannibalize the reading content of the science, history/social studies, mathematics, and arts curricula in grades 6-12, content that English teachers are not expected and prepared to teach?

Common Core's standards thus require drastic changes in preparation programs and professional development for English teachers. They will need to take academic coursework (or a significant amount of professional development) in history and political science to understand the historical context, philosophical influences, unique features, and national and international significance, historically and today, of the seminal documents they are being required to teach students how to read. They will also have to undergo professional training in reading scientific texts. In addition, because the organizing framework for Common Core's ELA standards consists chiefly of generic skills, teachers will need to learn how to teach summary writing, student-generated questioning, paraphrasing, and all the other study skills they have generally expected students to do without necessarily showing them how to acquire these skills.

V. Recommendations

Our analysis of Common Core's mathematics and ELA standards does not support the conclusion drawn by many other reviewers that Common Core's standards provide a stronger and more challenging framework for the mathematics and English language arts curriculum than (or even as equally a challenging framework as) California's current standards and Massachusetts' current (2001) and revised draft (2010) standards do. Common Core's standards will not prepare more high school students for authentic college-level work than current standards in these states do. To the contrary, they may lead to fewer high school students prepared for authentic college-level work. There are many legitimate reasons for having national standards, but they would need to be much stronger than those that Common Core has offered this nation if they are to be worthy of such a role.

1. States adopting Common Core's standards should delete the label of "college and career readiness standards" or "college and career readiness anchor standards" on all of Common Core's standards. Common Core's "college readiness" standards do not point to a level of intellectual achievement that signifies readiness for authentic college-level work. At best, they point to no more than readiness for a high school diploma. States adopting Common Core's standards should recognize the difference and ensure that they do not engage in false advertising. Accepting them at face value will damage our post-secondary institutions as well as the integrity of high school coursework. Adopting states are obligated to use the standards as worded, but there is no legal obligation to use surrounding textual material, appendices, or these labels.

Common Core's standards may well help many states to frame a stronger high school curriculum than their current standards do. Preparing all high school students for a meaningful high school diploma is something we have not yet achieved as a country and still need to do. But it is a far cry from preparing all high school students for authentic college-level work. Thus, preparing some high school sophomores or juniors for credit-bearing freshman coursework in an open admissions post-secondary institution, especially if the coursework has been adjusted downward in difficulty to accommodate them, is a strategy to evade the real problem—how to strengthen the high school academic curriculum to reduce postsecondary remedial coursework in a legitimate way as well as provide satisfactory options to this curriculum for students who do not want or cannot succeed in a traditional academic curriculum or who do not want to go to college.

Pretending that academically less able students are "college-ready" deceives them, their parents, educational institutions (K-12 and post-secondary), and the public at large and debases the meaning of authentic college-level work. The irony of supporting academically less able students in college while their academically more able peers are still finishing high school will eventually not be lost on any of them. It also creates a clear two-class society—those who leave high school to enroll in an open admissions college and those who complete a strengthened high school program to enroll in a more selective college.

Especially in states with more academically rigorous standards and ambitious high school graduation requirements (e.g., four years of high school mathematics), an emphasis on individual advancement and self-fulfillment is a massive shift from, and in a real sense a betrayal of, the principal purpose of K-12 public education—to produce informed and responsible citizens.

2. Educational publishers should not develop textbooks and other curricular materials based on Common Core's ELA standards until several key standards are appropriately placed and/or correctly written and several conceptual errors *are corrected.* The present set of standards will badly misinform ELA teachers on a number of disciplinary matters. Among the most serious are the following:

- A crucial Foundational Skills standard expecting students to read unfamiliar multisyllabic words "in context and out of context" is in grades 4 and 5 (3a) and needs to be in grades 1, 2, and 3 as well to ensure mastery of decoding skills. Its placement at only grades 4 and 5 misinforms all elementary reading teachers because it implies that decoding skills should be practiced in the primary grades only in context. This implication has the potential to set back all of beginning reading instruction despite all the fine standards in the Foundational Skills section.
- Informational reading standards need to distinguish clearly the various modes of organizing an expository text (e.g., order of time, cause and effect) from its structural elements (e.g., purpose, introduction, body, conclusion).
- The sub-strand on "argument" needs to distinguish argument from expression of opinion in the elementary grades (which is not a type of writing) and academic argument from advocacy or persuasive writing, and to clarify the key concepts at the root of persuasive writing: purpose and audience.
- The grammar standards need terminology that ELA teachers are apt to understand and more appropriate grade-level placement.
- Vocabulary standard 5c, grades 6-8: "Distinguish among the connotations (associations) of words with similar denotations (definitions)" needs to be straightened out and given appropriate examples. Teachers need to know that a word may have a denotation and a connotation (e.g., the head on a body and the head of the class) and that this distinction does not encompass

groups of semantically related words but with different shades of meaning.

3. Congress should require the National Assessment Governing Board to conduct a High School Transcript Survey (HSTS) every two years to monitor high school mathematics course-taking. An important provision in the 2001 Elementary and Secondary Education Act required all states to participate every two years in NAEP's tests of reading and mathematics so that a common yardstick could be used to compare state test results. If the next re-authorization of ESEA requires states to use "college and career readiness standards" for accountability-oriented tests, Common Core's academically low college and career readiness standards may heavily alter current high school mathematics course-taking patterns. NAEP itself cannot measure changes in high school course-taking patterns. The best tool we have at present is its HSTS, which NAEP has used irregularly to monitor course-taking since 1987. The most recent HSTS was in 2009, and the next one is scheduled for 2015. This sixyear hiatus will be the longest period without a survey since these surveys began, and we need data on mathematics (and science) coursetaking in particular much sooner than 2015 if large numbers of high school students, deemed college-ready, begin to leave high school after grade 10 or 11 to enroll in an open admissions post-secondary institution instead of completing advanced mathematics and science coursework in their last year or two of high school before going on to college. Common Core's goal of closing the achievement gap by increasing the number of underprepared students in college degree programs is likely to succeed chiefly in decreasing the number of high school students in advanced courses, and Congress must fund at least one method for detecting the effects of tests based on Common Core's standards.

Endnotes

- 1. Ze'ev Wurman and Sandra Stotsky. (February 2010). Why Race to the Middle? White Paper No. 52. Boston: Pioneer Institute. http://www.pioneerinstitute.org/pdf/100223_why_race_to_the_middle.pdf; R. James Milgram and Sandra Stotsky. (March 2010). Fair to Middling: A National Standards Progress Report, White Paper No. 56. Boston: Pioneer Institute. http://www.pioneerinstitute.org/pdf/100402_fair_to_middling.pdf; Sandra Stotsky and Ze'ev Wurman. (May 2010). The Emperor's New Clothes: National Assessments Based on Weak "College and Career Readiness Standards," White Paper No. 61. Boston: Pioneer Institute.
- 2. In detailed comparison of state standards in 2005, California's mathematics standards were rated as the best and its ELA standards as second best, while the Bay State's ELA standards were rated as the best and its mathematics standards as third best. See Klein, D., Braams, B.J., Parker, T., Quirk, W., Schmid, W., & Wilson, W.S. The State of State Math Standards 2005. Washington, DC: Thomas B. Fordham Institute, 2005. http://www.edexcellence.net/detail/news.cfm?news_id=338; and Stotsky, S. The State of State English Standards. 2005. Washington, DC: Thomas B. Fordham Institute, 2005. http://www.edexcellence.net/doc/FullReport[01-03-05].pdf
- 3. USED's solicitation for assessment consortia seeks an equivalent to states' current high school tests (used for accountability under No Child Left Behind) and requires a commitment by the states' post-secondary institutions to use this equivalent as signifying readiness for credit-bearing freshman coursework. http://www2.ed.gov/programs/racetothetop-assessment/comprehensive-assessment-systems-app.doc
- 4. Brief Prospectus for a State Consortium on Board Examination Systems. From the National Center on Education and the Economy. http://www.vpaonline.org/vpa/lib/vpa/Brief
 Prospectus 10-30-09 V4 .pdf

- 5. http://eap2009.ets.org/ViewReport.asp. See also Howell, J., Kurlaender, M., & Grodsky, E. Postsecondary Preparation and Remediation: Examining the Effect of the Early Assessment Program at California State University, November 2009.

 http://www.csus.edu/indiv/h/howellj/papers/JPAMRR Nov2009.pdf
- 6. As reported in Why Race to the Middle? (Wurman & Stotsky), "In 1999, the first time the state gave an Algebra I assessment based on its 1997 academic standards, 16% of grade 8 students had taken Algebra I. By 2002, the first time the scores were calibrated to allow future comparison, 29% of grade 8 students had taken Algebra I, with 39% scoring proficient and advanced. By 2009, 60% had, with 48% scoring proficient and advanced... In summary, in 2002 only 52,000 California students successfully completed Algebra 1 by grade 8. In 2009 over 139,000 students did so, almost 90,000 additional students" (p. 13).

7. http://www.doe.virginia.gov/news/news_releases/2010/jun24.shtml

- 8. Massachusetts led all states in grades 4 and 8 in reading and mathematics on the 2005, 2007, and 2009 administrations of the National Assessment of Educational Progress (NAEP). Moreover, in a comparison of the scores of the state's lowincome students with the scores of low-income students in the other states on NAEP's 2007 state tests, low-income students in Massachusetts were tied for first place in mathematics in grades 4 and 8 and in reading in grade 4. In grade 8 in reading, they were tied for second place. In the 2007 Trends in International Mathematics and Science Study, Massachusetts grade 4 students ranked second worldwide in science achievement and tied for third in mathematics, while its grade 8 students tied for first in science and ranked sixth in mathematics (Massachusetts had participated as an independent country).
- 9. Massachusetts Board of Higher Education and Massachusetts Department of Education.

- Massachusetts School-to-College Report: High School Class of 2005. February 2008. This report can be found at http://www.mass.edu/reports/research.html and http://www.mass.edu/reports.
- 10. The entry-level, credit-bearing mathematics course in the Bay State's public universities and four-year colleges is called College Algebra. While College Algebra in the state's universities and four-year colleges may have more difficult content than an algebra II course, the course called College Algebra taken by students in the state's community colleges to fulfill their college mathematics requirements is viewed as equivalent to Algebra II.
- 11. http://www.doe.mass.edu/hsreform/masscore/summary.doc
- 12. http://www.doe.mass.edu/hsreform/masscore/intro.ppt
- 13. Massachusetts Department of Elementary and Secondary Education. Questions and Answers: Massachusetts High School Program of Studies. Updated May 18, 2009. http://www.doe.mass.edu/hsreform/masscore/qanda.pdf#search=%22massachusetts%22
- 14. Clifford Adelman, Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment. Washington, D.C.: U.S. Department of Education, 1999. http://www.ed.gov/pubs/Toolbox/toolbox/html
- 15. The 2010 review form showing the rubrics for each of the points on the rating scale, as well as individual reviews of the four sets of ELA standards, can be found on Pioneer Institute's website.
- 16. From grades 6-8, students are to "distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., stingy, scrimping, economical, unwasteful, thrifty)." The examples given are in fact examples of synonyms, which is clear in 9-12 where the

objective asks students to "analyze nuances in the meaning of words with similar denotations." According to McDougal Littell's glossary in The Language of Literature, "Connotation is the emotional response evoked by a word, in contrast to its denotation, which is its literal meaning ..." In Handbook of Literary Terms: Literature, Language, Theory (X.J. Kennedy, D. Gioia, & M. Bauerlein, Pearson, 2005), connotation is defined as an "association or additional meaning that a word, image, or phrase may carry, beyond its literal reference or dictionary definition. ... A rose in literature is not only the literal flower; it also carries associations attached to it, both from the many poems treating roses as metaphors for love time, etc., and from historical events... Whereas denotative meanings signify a thing with precision..., connotative meanings belong to feelings, attitudes, valuations, and biases." Common Core's standard misleads teachers.

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Pioneer Institute is an independent, nonpartisan, privately funded research organization that seeks to change the intellectual climate in the Commonwealth by supporting scholarship that challenges the "conventional wisdom" on Massachusetts public policy issues.

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