

Analysis

As should be clear by now, most state standards are woefully inadequate. What makes them so? Let's take a look.

English language arts

In one important respect, state ELA standards are much stronger than they were a decade ago. Thanks no doubt to the recommendations of the National Reading Panel, most states now include reasonably strong and detailed expectations for phonemic awareness, phonics, comprehension, fluency, and vocabulary. However, in many other respects, most ELA standards still have a long way to go. Here are the five most common, and most pernicious, shortfalls.

Problem #1: A focus on metacognition instead of essential content

While early reading standards are generally strong, too many states prioritize metacognitive reading strategies over mastery of essential reading content. Such standards, which often ask students to “activate prior knowledge” or “ask and answer questions” to aid in comprehension, focus more on dubious pedagogical suggestions than they do on clearly defining measurable student outcomes.

For example, while a student may be struggling through a text because (s)he isn't engaging in close reading or pausing to ensure that (s)he's understood what (s)he has read, comprehension challenges are more likely due to a lack of critical content knowledge. State standards should, therefore, place a greater emphasis on defining the essential content that students must master to become proficient readers than on suggesting strategies that may or may not help them to comprehend complex texts.

Problem #2: Skimpy genre-specific and grade-specific expectations

Few states sufficiently delineate genre-specific standards for reading or writing. Instead, many seem to give a perfunctory nod to this important content by saying something fairly general about comparing genres of prose, identifying literary elements, or recognizing the structures of informational text. They sometimes follow those statements with an example or two, but usually fail to go any deeper or to adequately scaffold this content across grades.

Many states have standards that convey no content at all, as in “Respond to a variety of literary (or informational) texts” or “Write for a variety of purposes.” On the other hand, we also see overstuffed standards like this fourth-grade one:

Describe the defining characteristics of narrative and informational genres (e.g., folk tales, poetry, historical fiction, biographies, chapter books, textbooks) (grade 4, Nebraska)

In this standard, while some genres are named, the content is a mess. Literary and informational texts are conflated when each should be treated separately. Too many genres are addressed together, especially for fourth grade, when students do not yet have a firm grasp of essential differences among important genres. And nowhere else in the standards are critical genre-specific characteristics themselves identified. Such standards, therefore, leave little confidence that students will learn the differences between genres, and even less confidence that they'll become proficient readers of these genres as the texts themselves increase in complexity.

Done well, such standards would address genres and their characteristics systematically and distinctly, as Indiana does in this exemplary eleventh-grade standard:

Analyze characteristics of sub-genres, types of writings such as satire, parody, allegory, and pastoral that are used in poetry, prose, plays, novels, short stories, essays, and other basic genres.

- Satire: using humor to point out weaknesses of people and society
- Parody: using humor to imitate or mock a person or situation
- Allegory: using symbolic figures and actions to express general truths about human experiences
- Pastoral: showing life in the country in an idealistic—and not necessarily realistic—way (grade 11, Indiana)

Problem #3: What happened to American literature?

Few states prioritize or even mention American literature specifically. The few that do generally include a standard at eleventh grade only, the year in which many students take an American literature course (and, often, a concurrent U.S. history course). There is a rich body of American literature to which students should be exposed beginning much earlier and, in order to help produce well-read and culturally literate citizens, state standards should prioritize the study of our common literary heritage throughout the grades.

Problem #4: Where are the reading lists?

The study of literature is only as rigorous as the texts that students read. Unfortunately, few states provide adequate—or any!—guidance about the quality and complexity of reading that they expect of students. Many merely mention that students should be reading “grade-appropriate” texts, an empty caveat that leaves far too much room for interpretation.

Problem #5: Vague expectations for student writing

Too few states provide adequate guidance regarding the quality of writing expected of students. In some states, the writing standards are written in vague language that fails to clearly delineate what, precisely, students should know or be able to do. Instead, many merely provide a long list of genres students should study, as in this example from Iowa:

Write using different formats:

- Letter
- Journal
- Narrative
- Expository paragraph
- Research report
- Poetry
- News article/editorial
- Script
- Radio announcement
- Blog (grades 3-5, Iowa)

Such standards are so vague as to be instructionally meaningless.

Even when states attempt to clarify some genre-specific content, they frequently fall woefully short, as in this example from Mississippi:

The student will compose formal persuasive texts, providing evidence as support (grade 11, Mississippi)

To be sure, persuasive writing should provide evidence as support, but there is *much* more that students need to master to become proficient writers of different genres.

What’s more, in order to paint a complete picture of the quality of writing expected of students at each grade level, states should provide annotated examples of student writing; few states presently provide such guidance.

Finally, very few states adequately prioritize the genres that students should focus on each year. A rigorous K-12 writing program would logically start in the early grades with a focus on personal narrative, narrative, and letter writing, but would build through the years to focus on more complex genres such as persuasive writing and advanced literary

analysis. While many states do thoughtfully introduce persuasive, literary analysis, and research writing at appropriate grades, few clearly indicate that, as these new genres are introduced, they should take priority over the narrative writing that was emphasized in the early grades.

Comparison to the Common Core

The Common Core State Standards admirably avoid some of the pitfalls noted above. They generally avoid the pernicious problem of overemphasizing metacognitive reading strategies, particularly in the early grades; they prioritize essential writing genres, and provide annotated samples of student writing; and they include explicit guidance—including a list of exemplar texts—about the quality and complexity of reading that should be expected.

Unfortunately, like too many state standards, the Common Core fails to address the specific genres, sub-genres, and their characteristics for both literary and non-literary text. And, once again, we find only a single eleventh-grade standard that explicitly addresses American literature.

Mathematics

What are some of the reasons that so many state mathematics standards come up short? Here are five problems found in many, and in some cases most, of the standards documents that we reviewed.

Problem #1: Arithmetic is not a priority

In order to ensure that students are prepared early for rigorous math courses, K-12 standards in the elementary grades should emphasize critical arithmetic content, including arithmetic development and general number sense. Many states include solid arithmetic standards, but these are buried among a multitude of distracting and less important content. By failing to clearly prioritize this essential content, states fail to ensure that it gets the attention it deserves. Only a few states either explicitly or implicitly set arithmetic as a top priority. More often, states devote fewer than 30 percent of their standards in crucial elementary grades to arithmetic. The best states, however, devote more than 50 percent.

Furthermore, the four arithmetic operations for whole numbers cannot be mastered if the single-digit addition and multiplication facts (and corresponding subtraction and division facts) have not been learned to automaticity. For multiplication and division, only eleven states (plus Common Core) use key words or phrases such as automaticity, memorize, instant, or quick recall. Another fifteen states either fail to mention these “math facts” or specify only that students be able to compute them. But “fluency” with calculating the basic facts is not the same as instant recall. The other twenty-five states lie in between, usually because they say something that can be interpreted either way, for example:

| Demonstrate fluency with basic addition and subtraction facts to sums of 20 (grade 2, Colorado)

This can be interpreted as either computational fluency or instant recall. This lack of specificity means that some students might not be required to actually internalize the basic facts.

Problem #2: States duck the standard algorithms

Arithmetic forms the foundation of K-16 mathematics, and whole-number arithmetic forms the foundation of arithmetic. The proper goal for whole-number arithmetic is fluency with (and understanding of) the standard algorithms. Only seven states explicitly expect students to know the standard algorithm for whole-number multiplication as their capstone standard for multiplication of whole numbers. (This is a marked improvement from the number of states that included similar standards in our previous review!) But twenty-four states explicitly undermine this goal by offering, even expecting, alternatives to the standard algorithm, as demonstrated by this New York example:

| Use a variety of strategies to multiply three-digit by three-digit numbers (grade 5, New York)

This standard fails even to mention the standard algorithm, and thus leaves little confidence that students across the state will master this essential content.

Other states pay homage to the standard algorithm while still avoiding the goal:

| Solve multi-digit whole number multiplication problems using a variety of strategies, including the standard algorithm, justify methods used (grade 4, West Virginia)

Here, while the standard algorithm is mentioned, students can clearly move on without having mastered it, leaving open the possibility that teachers will accept any strategy that yields the correct answer. The problem, of course, is that a strategy that yields the correct answer in fourth grade will likely become less and less effective as students progress to more advanced mathematics.

Problem #3: States fumble fractions

If the basic necessities of whole-number arithmetic are hard to find in state standards, the development of fractions is even more difficult to see done well. Most states require students to learn the arithmetic operations for fractions, but many continue to eschew the standard algorithms, instead allowing students to use a “variety of strategies,” or even to “develop” their own approach to computing fractions. Still others just remain silent on how the operations should be performed.

After the foundation of whole-number arithmetic, fractions form the core of mathematics. Only fifteen states even mention common denominators, something essential in the development for adding and subtracting fractions. Likewise, standards specifying fractions as division are rare. Good development of this essential content is simply missing from most states’ standards.

There are a few notable exceptions. The Common Core admirably builds a short course on fractions into its standards, and California does the same in its curriculum framework.

Problem #4: Calculator clutter

Impressively, more than twenty states have purged calculators entirely from their elementary school standards, thus demonstrating that students should master basic computation without the use of technology. Unfortunately, for those states that have kept them, a typical standard is:

Use a variety of methods and appropriate tools for computing with whole numbers; e.g., mental math, paper and pencil, and calculator (grade 4, Ohio)

Nothing but “appropriate” specifies when a calculator should or should not be used, and what is “appropriate” is not well established. It could mean anything a reader wants it to mean. But, by having calculators in the standard, they will be used and, when calculators are an option, they undermine the development of fluency with the standard algorithms.

Problem #5: Dysfunctional on functions

The study of functions has a place toward the end of high school mathematics to help unify what has been learned about linear, quadratic, exponential, logarithmic, and other equations to help make the transition to calculus. Unfortunately, many states introduce the concept of function before it can be of much mathematical use. This causes a number of problems.

We begin with an outrageous example:

Explain how one variable produces a change in another variable (grade 2, West Virginia)

This would be considered too vague and too general if stated as a high school standard, but it is just ludicrous in the second grade. At that stage, students have learned nothing about the different types of equations (mentioned above), and so it is inappropriate to introduce the concept of functions and variables.

Similar problems exist in high school standards, as, for example:

Provide a convincing argument (or proof) regarding the inverse relationship of two functions (Advanced Algebra, Mississippi)

As it stands, this standard is essentially useless. It is not possible to know if it is intended that students know the inverse trigonometric functions.

These standards fail because they are both vague and missing essential prerequisite content.

Comparison to the Common Core

The Common Core standards are exemplary in many ways. The K-8 standards avoid many of the common pitfalls mentioned above. In particular, they are admirably focused on the most important content and provide clear and careful guidance on what exactly needs to be included. They do not include a lot of inflationary statements of the kind strewn through many states' standards. There are no mentions of calculus in Kindergarten, for example. For the most part, they do not exhort elementary-age children to become algorithm developers, or statistical experts, but focus instead on asking them to master basic mathematics that will prepare them to continue learning mathematics. They do not promote the use of technology over the use of reasoning and brain power, but insist on mathematical coherence and proficiency with the basics. This insistence on mathematical rigor is refreshing in the landscape of standards. Equally refreshing is the restraint shown in asking for inappropriate levels of sophistication from young children.

The high school material is somewhat less satisfactory. In a presumed attempt to provide guidance that would suit many different curricular approaches, the content is not really organized in a way that reflects mathematical topics. The specific content is almost always there, but it is often not presented in a way that outlines a clear and coherent curricular approach. Statements about mathematical topics, such as quadratic equations, are not always presented together so as to promote the rigorous development of the topic as a whole. The crucial material is generally included, but there is little guidance implicit in the organization to outline an appropriate, cohesive approach.

Conclusion

Clearly, state standards vary dramatically—something we've known for more than a decade and have demonstrated on multiple occasions. A small handful of them are strong, but most lack the content and clarity needed to provide a solid foundation for effective curriculum, assessment, and instruction. Averaged together, the standards now in place in states across the U.S. earn a C in both ELA and math. The Common Core standards, by contrast, merit a B-plus and an A-minus, respectively. For most states, they present a significant improvement and a rare opportunity. Still, much as a solid foundation does not guarantee a great structure atop it, getting standards right is not enough to ensure a great education for America's students. Yet it is a critical starting point in our effort to drive outstanding student achievement.

-
- 1 Sandra J. Stotsky, *State English Standards* (Washington, D.C.: Thomas B. Fordham Foundation, 1997), http://www.edexcellence.net/detail/news.cfm?news_id=30&id=.
 - 2 Chester E. Finn, Jr., Michael J. Petrilli, and Liam Julian, *State of State Standards 2006* (Washington, D.C.: Thomas B. Fordham Foundation, 2006), http://www.edexcellence.net/detail/news.cfm?news_id=358&id=.
 - 3 See, for example: Grover J. "Russ" Whitehurst, "Don't Forget Curriculum," *Brown Center Letters on Education*, no. 3, Brookings Institution, October 2009, http://www.brookings.edu/papers/2009/1014_curriculum_whitehurst.aspx.
 - 4 For more, see here: Charles D. Chieppo and James T. Gass, "Accountability Overboard: Massachusetts Poised to Toss out the Nation's Most Successful Reform," *Education Next* 9, no. 2 (Spring 2009), <http://educationnext.org/accountability-overboard/>.
 - 5 John Cronin, Michael Dahlin, Deborah Adkins, G. Gage Kingsbury, *The Proficiency Illusion* (Washington, D.C.: Thomas B. Fordham Institute, 2007), http://www.edexcellence.net/detail/news.cfm?news_id=376&id=.
 - 6 Sheila Byrd Carmichael, W. Stephen Wilson, Chester E. Finn, Jr., Amber M. Winkler, and Stafford Palmieri, *Stars by Which to Navigate? Scanning National and International Education Standards in 2009* (Washington, D.C.: Thomas B. Fordham Institute, 2009), http://www.edexcellence.net/doc/20091008_NationalStandards.pdf.
 - 7 These background papers can be found here: http://www.edexcellence.net/index.cfm/news_common-education-standards-tackling-the-long-term-questions.

Common Core • English Language Arts

DOCUMENTS REVIEWED

Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science and Technical Subjects. June 2, 2010.
Accessed from: <http://www.corestandards.org/the-standards/english-language-arts-standards>

Overview

The *Common Core State Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects* seek to provide “the next generation of K-12 standards in order to ensure that all students are college- and career-ready in literacy no later than the end of high school.”¹ Fordham reviewed an earlier draft of these standards in March 2010, and a number of improvements have been made since that iteration.²



Clarity and Specificity:	2/3
Content and Rigor:	6/7
Total Score:	8/10

These final standards indeed reflect a thoughtful attempt to define skills in each area of English language arts, (ELA) as well as an effort to define how those skills might be nurtured in “history/social studies, science and technical subjects.” Although they would be more helpful to teachers if they attended as systematically to content as they do to skills, especially in the area of reading, the standards—accompanied by a well-aligned and content-rich curriculum—could provide a valuable tool to classroom teachers.

General Organization

The document includes two categories of standards. The first is a list of “College and Career Readiness” (CCR) standards in each of four strands (reading, writing, listening and speaking, and language). These CCR standards are broad statements about what students should know and be able to do in each strand by the time they graduate from high school. The second category includes grade-appropriate learning expectations for each grade, K-12. These expectations are designed to provide “additional specificity” by translating the CCR standards into detailed, grade-specific learning objectives.

In grades 6-12, the standards also include a section devoted to “literacy for history/social studies, science, and technical subjects,” which breaks the reading and writing CCRs into grade-level expectations for history and science teachers. (Note, though, that this review focuses on the core standards for ELA.)

Finally, the standards include three appendices. The first provides definitions of text complexity, more detailed guidance about early reading foundations, and definitions of text types. The second lists “exemplar” literary and informational texts by grade spans, as well as “sample performance tasks,” which describe suggested instructional activities involving some of the cited texts. The third provides annotated student writing samples that demonstrate what kind of writing is expected of students at each grade. The appendices must be considered components of the standards themselves in order for the standards to be effective.

Clarity and Specificity

For the most part, the standards are fairly specific about the skills that students should master each year, as in the following examples:

Describe characters in a story (e.g., their traits, motivations or feelings) and explain how their actions contribute to the sequence of events) (grade 3)

Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, assessing the stance, premises, links among ideas, word choice, points of emphasis and tone used (grades 11-12)

In other places, however, the language of the standards is a bit bloated or confusing, as in this vocabulary standard:

Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation) (grade 4)

It is hard to imagine which words are not included in this all-encompassing standard, and it is not clear how using words “that signal precise actions, emotions, or states of being” should be counted among “general academic” and “domain-specific” words. Moreover, what is the expected student outcome here, and how could it be measured?

Similarly puzzling standards can be found here and there, including the following:

With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting (grade 5)

How would a teacher measure students’ “interacting and collaborating with others”? Are students collaborating with others to produce and publish writing or for some other purpose?

In the following conventions standard, it is difficult to determine how a teacher would use this directive to drive instruction:

Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations (grades 9-10)

This standard implies that a writer can “add interest” simply by using different phrases and clauses. Most uninteresting sentences, by virtue of being sentences, have phrases and clauses. Sometimes, interest is much better generated with simple, straightforward language. Encouraging students to overcomplicate their sentences to make them seem more interesting seems like confusing, if not misguided, advice. Depending on the genre, word choice might, for example, be a better technique than sentence construction for “adding interest.” It looks as though this standard is designed to unnecessarily rationalize the study of “clauses and phrases” by assigning it an artificial purpose.

In other cases, the language is repeated verbatim across grades, for example:

Provide an objective summary of the text (grades 7-12)

Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings... (grades 6-12)

Such standards should either be included only as a capstone standard in a particular grade, or should be scaffolded from grade to grade to demonstrate a clear progression of rigor.

Finally, the organization of the reading standards is hard to follow. They are organized into four categories: “Key Ideas and Details,” “Craft and Structure,” “Integration of Knowledge and Ideas,” and “Range of Reading and Level of Text Complexity.” This framework creates a false sense of separation between inextricably linked characteristics, such as themes in a literary text (treated under “Key Ideas”) and point of view (treated under “Craft and Structure”). Since many kinds of texts, genres, sub-genres, and their characteristics are discussed in each category, it is also difficult to determine whether a logical sequence covering all of this important content has been achieved. What’s more, because the standards often offer a choice of genres to teachers, as in “Analyze how particular elements of a story *or* drama interact,” (emphasis added) coverage of essential genre-specific content is even harder to track.

Clarity and Specificity Conclusion

Where clarity and specificity are concerned, the standards are an improvement on the March draft. In some strands, they illustrate more clearly the growth expected across grades. Still, the organization of the reading strand, as well as the instances of vague and unmeasurable language, mean that the standards do not ultimately provide sufficient clarity and detail to guide teachers and curriculum and assessment developers effectively. They therefore earn two points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Reading

As noted in Fordham’s review of the March draft, the standards lay a clear foundation for reading acquisition in the early grades by outlining straightforward expectations in phonemic awareness, phonics, and fluency. It should be noted, however, that the useful examples included in the March draft (about the progression of specific phonological awareness skills, for example) have been moved to the standards’ Appendix A, making it somewhat less likely that teachers will use these critical examples as a guide for instruction.

The standards for vocabulary development are mostly thorough; they consistently address word analysis and etymology. They maintain, however, that students should choose “flexibly from a range of strategies” to “determine or clarify the meaning of unknown words...,” suggesting that the strategies mentioned (the use of context clues, word analysis, and consulting a dictionary) are all equally useful. In grades 6-12, students “verify the preliminary determination of the meaning of a word or phrase by checking the inferred meaning in context or in a dictionary” (emphasis added). This statement appears tautological, since an inferred meaning and a preliminary determination would likely be the same thing. The dictionary is the place for verification.

To illustrate the quality and complexity of what students should read, the standards include lists of “exemplar” texts for grade spans K-1, 2-3, 4-5, 6-8, 9-10, and 11-12. These lists include some welcome additions to the March draft, particularly in high school, such as Voltaire, Kafka, and Sophocles at grades 9-10, and Hawthorne, Poe, and Melville in grades 11-12. The lists now represent a range of solid literature and informational texts, as well as titles for “history/social studies” and “science, mathematics, and technical subjects.”

The exemplar text lists also include “sample performance tasks,” designed to “illustrate specifically the application of the standards to texts of sufficient complexity, quality, and range.” For example, this task is listed following the informational text exemplars for grades 2 and 3:

Students explain how the main idea that Lincoln had “many faces” in Russell Freedman’s *Lincoln: A Photobiography* is supported by key details in the text (grades 2-3)

The task cites the standard to which it is tied. These simple examples throughout the appendix are minimalistic but helpful additions for teachers.

Common standards for U.S. students should emphasize the importance of reading grade-appropriate works of outstanding American literature that reflect our common heritage. The standards now include one clear and rigorous standard that prioritizes this essential content:

Demonstrate knowledge of eighteenth-, nineteenth- and early-twentieth-century foundational works of American literature, including how two or more texts from the same period treat similar themes or topics (grade 11)

In addition, the “informational text” strands include the analysis of essential American documents:

Analyze seminal U.S. documents of historical and literary significance (e.g., Washington’s Farewell Address, the Gettysburg Address, Roosevelt’s Four Freedoms speech, King’s “Letter from Birmingham Jail”), including how they address related themes and topics (grades 9-10)

Although it would be ideal to find standards focused on American literature in all grades, these high school standards are welcome additions. In most cases, they cite essential texts specifically and leave little doubt in teachers’ minds about what knowledge and skills students need to master.