AS OF JUNE 20, 2010, THIS STATE HAD ADOPTED THE COMMON CORE STATE STANDARDS.

Oklahoma • English Language Arts

DOCUMENTS REVIEWED[1]

Priority Academic Student Skills: Language Arts. Reading strands updated March 2007. Writing, Grammar, Usage and Mechanics strands updated 2003. Accessed from:http://sde.state.ok.us/Curriculum/PASS/Subject/langarts.pdf

Overview

The Oklahoma ELA standards are well written and thorough, clearly outlining expectations for most of the essential K-12 content needed to drive rigorous curriculum development, instruction, and assessment.

GRADE **B+**

Clarity and Specificity:	3/3
Content and Rigor:	5/7
Total State Score:	**8/10**

(*Common Core Grade: B+*)

General Organization

Oklahoma's standards are divided into four strands: Reading/Literature, Writing/Grammar/Usage and Mechanics, Oral Language/Listening/Speaking, and Visual Literacy.

Each strand is divided into two to eight standards, then into grade-level objectives for grades 1-12. (Kindergarten standards are not provided.) The state also frequently provides standard-specific examples designed to clarify expectations.

Clarity and Specificity

Oklahoma's standards are well organized and clearly presented. The objectives are generally free of jargon, describe measurable expectations, and clearly illustrate the growth and progression of rigor expected through the grades.

The use of examples to help clarify expectations adds significant value by specifying precisely what students should know and be able to do. Take, for example, these first- and ninth-grade objectives:

> Use blends, digraphs, and diphthongs.
> - Example: Blends—fl, tr, sl, sm, sn, bl, gr, and str
> - Example: Digraphs—sh, th, wh
> - Example: Diphthongs—oi, oy, ou, ow (grade 1)
>
> Apply a knowledge of Greek (e.g., tele/phone, micro/phone), Latin (e.g., flex/ible), and Anglo-Saxon (e.g., un/friend/ly) roots, prefixes, and suffixes to determine word meanings (grade 9)

The biggest drawback of the standards is their failure to delineate any expectations for Kindergarten, let alone Pre-K (though Oklahoma famously has a "universal" Pre-K program attached to its public schools). Despite this, the combination of the sound organization and clearly-written, grade-specific objectives easily merits three points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Strengths

The strengths of Oklahoma's ELA standards are considerable. While they should be improved by providing standards for Kindergarten, the early reading standards are excellent. The objectives clearly outline expectations for phonics and phonemic awareness, and sequence the essential content well for grades 1-4; for example:

> Standard 2: Phonological/Phonemic Awareness—The student will develop and demonstrate knowledge of phonological/phonemic awareness…
>
> 3. Distinguish onset (beginning sound) and rime in one-syllable words.
>
> • Examples: onset: /b/ in bat; rime: at in bat…
>
> 5. Isolate phonemes within words by identifying the beginning, middle, and ending sounds in one-syllable words.
>
> • Example: the beginning sound of dog is /d/, the middle sound in can is /a/ (grade 1)
>
> Standard 3: Phonics/Decoding – The student will apply sound-symbol relationships to decode unknown words.
>
> 1. Phonetic Analysis—Apply phonics knowledge to decode one-syllable words.
>
> a. Use short and long vowel patterns.
>
> Example: CVC = mad, hid, cut
>
> Example: CVCV (final e) = made, hide, cute
>
> Example: CV = he, me, so (grade 1)

The development of vocabulary through the grades is equally strong and includes objectives that appropriately emphasize using both context and outside resources (including dictionaries and thesauruses) to confirm the meaning of unfamiliar words. In addition, they require mastery of Greek and Latin roots, etymology, and shades of meaning.

In reading, while they could include more genre-specific objectives (discussed in greater detail below), the standards admirably avoid the common pitfall of prioritizing reading comprehension strategies over analysis and understanding of genre, text structure, and literary techniques. In addition, the treatment of stylistic devices and literary elements is strong, as demonstrated by these fifth- and sixth-grade standards:

> Describe elements of character development in written works (e.g., differences between main and minor characters; changes that characters undergo; the importance of a character's actions, motives, stereotypes, and appearance to plot and theme) (grade 5)
>
> Make inferences or draw conclusions about characters' qualities and actions (e.g., based on knowledge of plot, setting, characters' motives, characters' appearances, stereotypes and other characters' responses to a character) (grade 5)
>
> Identify and describe the function and effect of common literary devices, such as imagery and symbolism.
>
> - Imagery: the use of language to create vivid pictures in the reader's mind
> - Symbolism: the use of an object to represent something else; for example, a dove might symbolize peace (grade 6)

The standards also delineate very clear and rigorous expectations for the mastery of English language conventions and spelling, including:

> Grammar/Usage: Students are expected to recognize and use nouns, pronouns, verbs, adjectives, adverbs, and conjunctions correctly in their writing.
>
> a. Singular and plural forms of nouns
>
> b. Singular and plural possessive nouns
>
> c. Subject, object, reflexive, and possessive pronouns
>
> d. Subject, direct object, and object of prepositions
>
> e. Present, past, future, and present perfect verbs tense
>
> f. Regular, irregular, and helping verbs
>
> g. Subject-verb agreement
>
> h. Descriptive, comparative, superlative, and demonstrative adjectives
>
> i. Time, place, and manner adverbs
>
> j. Comparative forms of adverbs (grade 4)

Oklahoma provides equally specific expectations that address the quality of writing products, including clear, grade-specific objectives that delineate expectations for the organization and focus of writing and for the development of ideas.

In addition, the state effectively prioritizes important genres from grade to grade. In the elementary grades, writing is appropriately focused on narrative and basic informational writing. In fifth grade, persuasive and research writing is introduced and narrative and letter writing is given less attention. By high school, students are expected to write significant persuasive, argument, and response to literature papers. These standards could certainly be enhanced by the inclusion of rubrics and examples of student work to clarify expectations further, but the standards do outline expectations that demonstrate a clear progression of rigor through the grades.

Finally, the state includes clear expectations for listening and speaking, as well as for delivering formal oral presentations and media.

Content Weaknesses

While the reading standards are strong in the ways noted above, they fall short in four areas. First, few objectives are devoted to informational texts. Instead, such texts are listed as one of many genres to be studied, and so standards fail to delineate genre-specific expectations for the study of informational text.

Second, while much content is included for the study of literary texts (as mentioned above), the state provides little guidance regarding the genre-specific content that students must master to become proficient readers, as demonstrated by the following eighth-grade standard:

> Analyze the characteristics of genres, including short story, novel, drama, lyric poetry, nonfiction, historical fiction, and informational texts (grade 8)

Merely asking students to "analyze the characteristics" of a long list of genres without providing substantive details about what characteristics students should master from grade to grade provides scant little guidance.

Third, the reading and literature standards fail to provide guidance about the quality and complexity of reading that students should be doing from grade to grade. And, while the high school standards give a perfunctory nod to reading important works of American literature, the standards for grades 1-8 fail to do even that.

Fourth, while some standards delineate expectations for formal oral presentations and for the quality of writing products expected, the state fails to include specific criteria that would further clarify these expectations.

In sum, while the Oklahoma standards include much of the essential K-12 content, the shortcomings described above omit more than 5 percent of that content, thus earning the standards five points out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

Oklahoma's standards are better organized and more clearly presented than Common Core. The objectives are generally free of jargon, describe measurable expectations, and clearly illustrate the growth and progression of rigor expected through the grades. Oklahoma uses more standard-specific examples to help clarify expectations and treats literary genres and their characteristics in more detail. The Oklahoma standards also prioritize essential writing genres by grade spans, which Common Core does not.

On the other hand, Oklahoma fails to include any expectations for Kindergarten, while those presented in the Common Core are generally strong. In addition, the Common Core addresses the analysis of informational text in more detail than the Oklahoma standards. Common Core also includes a list specifying the quality and complexity of student reading as well as sample student writing. Such enhancements would significantly improve Oklahoma's standards.

1 The Reading and Literature strands of Oklahoma's PASS ELA standards were last revised and adopted in March 2007. The Writing/Grammar/Usage and Mechanics (WGUM) section was last revised and adopted in June 2009. This updated WGUM section became available on the Oklahoma Department of Education website at the beginning of July 2010, and was not available for review. Instead, experts reviewed the available 2003 version of the WGUM standards.

AS OF JUNE 20, 2010, THIS STATE HAD ADOPTED THE COMMON CORE STATE STANDARDS.

Oklahoma • Mathematics

DOCUMENTS REVIEWED

Priority Academic Student Skills: Math Content Standards. Spring 2009.
Accessed from: http://sde.state.ok.us/Curriculum/PASS/Subject/math.pdf

Overview

Oklahoma's standards are generally strong. They are well written, and K-8 grades are introduced with a section that focuses and clarifies the standards by providing explicit guidance on priorities. The standards are not rigorous enough in places, however, and some important content is missing.

GRADE **B+**

Clarity and Specificity:	3/3
Content and Rigor:	5/7
Total State Score:	**8/10**

(*Common Core Grade: A-*)

General Organization

Oklahoma organizes its K-8 standards into five content standards that are common across grade levels: Algebraic Reasoning, Number Sense and Operations, Geometry, Measurement, and Data Analysis. Each strand is then divided into grade-specific standards.

In addition, Oklahoma introduces its K-8 standards with three "major concepts," which are the three most important topics students must master in each grade. For example:

> - Develop quick recall of multiplication facts and related division facts (fact families) and fluency with whole-number multiplication.
> - Develop an understanding of decimals and their connection to fractions.
> - Develop an understanding of area and acquire strategies for finding area of two-dimensional shapes (grade 4)

The high school standards are organized similarly, with two important differences. First, the content is divided into three courses, rather than five content strands. Second, each course is introduced with a list of "major concepts" (which should be taught in depth) and "maintenance concepts" (which have been taught previously and are prerequisites).

Clarity and Specificity

The standards are generally clear and easy to read. They make frequent and excellent use of examples to clarify the meaning of the statements. For example, the parenthetical examples in this standard serve to make it clear exactly what students are supposed to be able to do:

> Identify, describe, and analyze functional relationships (linear and nonlinear) between two variables (e.g., as the value of x increases on a table, do the values of y increase or decrease, identify a positive rate of change on a graph and compare it to a negative rate of change) (grade 7)

Similarly, the example further clarifies this standard:

> Write and solve one-step equations with one variable using number sense, the properties of operations, and the properties of equality (e.g., -2x+4=-2) (grade 7)

The clarity is also greatly enhanced by the inclusion of the major concepts, explained above, which specify the topics that should be taught in depth. These provide the standards with focus and are clear and explicit. Taken together, these earn Oklahoma a score of three points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Priorities

In grades K-8, Oklahoma has set priorities in an exemplary way. The major concepts introducing each grade are stated as the major goals for the year and specified as concepts that "...should be taught in depth." They are explicit and clear. For example, major concepts for the fourth grade are:

> Develop quick recall of multiplication facts and related division facts (fact families) and fluency with whole-number multiplication (grade 4)
>
> Develop an understanding of decimals and their connection to fractions (grade 4)
>
> Develop an understanding of area and acquire strategies for finding area of two- dimensional shapes (grade 4)

These effectively and appropriately set priorities. Standards on less important topics, such as tessellations, will not be misinterpreted as important content.

In each grade, 1-6, two out of three of the major concepts deal with numbers and computations, giving mastery of arithmetic appropriate priority.

Content Strengths

Some of the development of arithmetic is very strong. For example, the following standard explicitly requires memorization of basic facts:

> Demonstrate fluency (memorize and apply) with basic multiplication facts up to 10 x 10 and the associated division facts (e.g., 5 x 6 = 30 and 30 ÷ 6 = 5) (grade 3)

Other strengths include explicit mention of common denominators and the rigor of the high school Geometry course.

Content Weaknesses

There are some problems with the development of arithmetic. The major concepts clearly state that fluency with whole-number addition, subtraction, multiplication, and division is required. However, the standards themselves do not adequately support such fluency. A rigorous treatment of computational fluency requires the standard algorithms, but the standards never specify that students know them and are able to compute with them. For example, the capstone standard for multiplication, which has fluency with multiplication as a major concept, is:

> Estimate and find the product of up to three-digit by three-digit using a variety of strategies to solve application problems (grade 4)

As the capstone standard for multiplication, this lacks the rigor required for true fluency with multiplication. Worse, by allowing students to use "a variety of strategies," rather than requiring mastery of the standard algorithms, this standard may actually undermine such fluency by allowing students to rely on inefficient techniques.

The development of the arithmetic of fractions similarly fails to specify standard methods for computation and instead requires a "variety of strategies."

There are some other weaknesses in the standards. Calculators, while not prevalent until high school, are a "suggested material" beginning in first grade. The inverse nature of addition and subtraction and of multiplication and division are not mentioned. Other missing content includes work with rates and rational numbers as repeating decimals (though this is mentioned in the glossary).

In high school, the standards for the Algebra courses become noticeably less clear, and there is a tendency to rely on graphing calculators. This is illustrated by the following standard:

> Graph a quadratic function and identify the x- and y-intercepts and maximum or minimum value, using various methods and tools which may include a graphing calculator (Algebra II)

In addition, standards are provided for only three high school courses and some STEM-ready material is missing, particularly trigonometry beyond the basic definitions. However, the standards state explicitly that "students planning to continue their mathematics education should study additional advanced mathematics topics such as trigonometry..."

Oklahoma's standards cover most of the essential content well, and they set priorities beautifully. There are some weaknesses in the areas of arithmetic, the study of rates, and the inclusion of STEM-ready material. These shortcomings result in a Content and Rigor score of five points out of seven. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

Oklahoma's standards are generally clear and well presented. Standards are briefly stated and frequently include examples, making them easier to read and follow than Common Core. In addition, the high school content is organized so that standards addressing specific topics, such as quadratic functions, are grouped together in a mathematically coherent way. The organization of the Common Core is more difficult to navigate, in part because standards dealing with related topics sometimes appear separately rather than together.

While Oklahoma's standards provide well-organized high school courses, they are missing some of the advanced content for high school that is covered in Common Core. In addition, the coverage of arithmetic displays some serious weaknesses. Common Core explicitly requires standard methods and procedures, and the inclusion of these important details would enhance Oklahoma's standards.