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

Michigan • English Language Arts

DOCUMENTS REVIEWED

Michigan English Language Arts Grade Level Content Expectations: ELA Across the Grades, v.12.05. 2006.
Accessed from: http://www.michigan.gov/mde/0,1607,7-140-28753_33232---,00.html

High School Content Expectations: English Language Arts. April 2006.
Accessed from: http://www.michigan.gov/documents/ELA11-140pen1_142201_7.pdf

Overview

Although the Michigan standards have a few moments of clarity, specificity, and rigor, overall they are a muddle. The standards include many loosely worded general statements and few clear and specific expectations for students. They emphasize process over content and student outcomes.

GRADE **D**

Clarity and Specificity:	1/3
Content and Rigor:	2/7
Total State Score:	**3/10**

(*Common Core Grade: B+*)

General Organization

In grades K-8, the Michigan standards are organized into three strands:

» Reading
» Writing
» Listening, Speaking and Viewing

Each strand is then divided into multiple sub-strands, which are further divided into grade-level expectations.

In high school, however, a single set of standards is presented for grades 9-12, with no specific grade-level expectations. The strands (which have sub-strands) are:

» Writing, Speaking, and Expressing
» Reading, Listening, and Viewing
» Literature and Culture
» Language

Clarity and Specificity

In general, the Michigan standards are neither clear nor specific. In some cases, specific content is included, but more often broad statements take the place of specific, measurable expectations. Consider this fourth-grade Speaking standard:

> Engage in interactive, extended discourse to socially construct meaning in book clubs, literature circles, partnerships, or other conversation (grade 4)

How would a teacher measure whether this expectation had been met?

A number of strands include entire sub-strands for which the purpose is unclear, and for which expectations are often difficult to understand, much less to measure. For instance, this standard, which is the only one to be found under the sub-strand "Reading Attitude," is listed for every grade, 3-8:

> Be enthusiastic about reading and do substantial reading and writing on their own (grades 3-8)

Many other standards are repeated verbatim (or nearly verbatim) across grade levels, such as this "response" standard in the Reading strand, repeated in grades 6, 7, and 8:

> Respond to multiple text types when listened to or viewed knowledgeably, by discussing, illustrating, and/or writing in order to anticipate and answer questions; determine personal and universal themes; and offer opinions or solutions (grades 6-8)

A standard like this contains no specified outcomes, which is unfortunately true of the majority of Michigan's standards. The standards earn a score of one point out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Strengths

Speaking and listening standards are difficult to do well. However, Michigan's contain some good content, as in the standards under the Speaking sub-strand, "Conventions," that require students to "use common grammatical structures correctly when speaking" and to "speak effectively using rhyme, rhythm, cadence, and word play for effect in narrative and informational presentations."

The listening standards in grades 6-8 also address the analysis of media, as in this seventh-grade standard:

> Identify persuasive and propaganda techniques and analyze the effect on the view of images, text, and sound in the electronic media (e.g., television, movies), and determine if the techniques used achieved their intended effects (grade 7)

In high school, multimedia analysis and production are treated quite thoroughly.

Also in high school, the standards designate American literature as a topic for study, as in this example:

> Explore the relationships among individual works, authors, and literary movements in English and American literature (e.g., Romanticism, Puritanism, the Harlem Renaissance, Postcolonial), and consider the historical, cultural, and societal contexts in which works were produced (high school)

The high school standards also ask students to:

> Demonstrate knowledge of American minority literature and the contributions of minority writers (high school)

It is difficult to evaluate the rigor of such broad statements, but Michigan is to be commended for acknowledging the importance of studying our own literary heritage.

Content Weaknesses

The weaknesses far outweigh the strengths of the Michigan standards, beginning with early reading content, which is rather superficial. The following "phonics" standard for Kindergarten is one of just four total:

> Use grapho-phonemic (letter-sound) cues to recognize a few one-syllable words when presented completely out of context. Begin to associate letters and sounds, particularly initial and final consonants (Kindergarten)

The early reading standards, moreover, appear to offer phonics as a choice among reading strategies, as in this "Word recognition, Word Study and Fluency" standard in Kindergarten:

> Narrow possibilities in predicting words using initial letters/sounds (phonics), patterns of language (syntactic), and picture clues (semantic) (Kindergarten)

In addition, the Reading strand includes a "Metacognition" sub-strand in which reading "strategies" (e.g., "making credible predictions based on illustrations") eclipse word study.

Where vocabulary is concerned, there is only one standard that ostensibly addresses word structure, but the standards emphasize other strategies for determining word meaning, such as "context clues," "mental pictures," "semantic feature analysis," and "questioning." Use of a dictionary is mentioned only twice—once in third grade and once in high school.

The analysis of literary text is overly concerned with politically correct interpretations of literature rather than close examination of genres, characteristics of genres, literary elements, and literary devices. Consider this seventh-grade standard:

> Investigate various examples of distortion and stereotypes such as those associated with gender, race, culture, age, class, religion, and other individual differences through classic, multicultural, and contemporary literature recognized for quality and literary merit (grade 7)

It is far from clear what actual knowledge or skills a student should demonstrate to meet this standard, but it has very little to do with analysis of genres, structures, literary elements, or devices.

Another standard asks students to:

> Describe how characters form opinions about one another in ways that can be fair and unfair in classic, multicultural, and contemporary literature recognized for quality and literary merit (grade 6)

Asking students to judge whether characters are "fair" or not seems at least idiosyncratic, if not ridiculous.

Informational text structures and features are covered in a rudimentary way, without much detail, and the analysis of informational text is thin, without any reference to the analysis of reasoning and the truthfulness or validity of arguments. In high school, where informational text is mentioned, it is tossed in with literary text, as in this high school standard:

> Examine differing and diverse interpretations of literary and expository works and explain how and why interpretation may vary from reader to reader (high school)

The standard hardly provides guidance for teachers at different grade levels about how students should analyze informational text structures and features.

Michigan's writing standards emphasize narrative writing, which appears at nearly every grade level from K-8. Other "genres" are sprinkled across grades and treated summarily, as in this standard from eighth grade:

> Write an historical expository piece such as a journal, biography, or simulated memoir that includes appropriate organization, illustrations, marginal notes and/or annotations (grade 8)

In high school, writing is addressed in a strand called, Writing, Speaking and Visual Expression. Explicit writing expectations are often missing. One unmeasurable "writing attitude" standard is included; it simply exhorts students at each grade level from K-8 to "be enthusiastic about writing and learning to write."

Standards for grammar and usage are pell-mell. They include some specific content, but also tend to include arbitrary grade-level assignments. "Infinitives, gerunds, participial phrases, and dashes or ellipses" are to be covered in eighth grade. Continuous verb tenses (which could easily be moved down several grades) are to be covered in seventh grade, yet "adjective and adverbial subordinate clauses" (which are more difficult) are to be covered in sixth. Spelling standards are, for the most part, very superficial.

Speaking and Listening standards could be more rigorous, especially in high school, where they are lost in two strands. The treatment of reading and writing also suffers in high school because too many of these "hybrid" standards are skills-based statements that are ultimately devoid of content, such as:

> Compose written, spoken, and/or multimedia compositions in a range of genres (e.g., personal narrative, biography, poem, fiction, drama, creative nonfiction, summary, literary analysis essay, research report, or work-related text): pieces that serve a variety of purposes (e.g., expressive, informative, creative, and persuasive) and that use a variety of organizational patterns (e.g., autobiography, free verse, dialogue, comparison/contrast, definition, or cause and effect) (high school)

It would be far more helpful to teachers to describe the expected characteristics of each genre listed, and to state which genres are most appropriate for study at each grade level.

Standards for formal oral presentation are included, but only nominally and mostly in grades K-8, where students are asked to use, for example, "an informational organizational pattern" but are never asked to do more important things like anticipating counterclaims.

In sum, despite some laudable efforts, these standards are too fraught with vague language and nonacademic expectations to comprise a rigorous set of expectations for students and teachers. Consequently, they can earn no higher than two points out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of D, Michigan's ELA standards are among the worst in the country, while those developed by the Common Core State Standards Initiative earn a solid B-plus. The CCSS ELA standards are significantly superior to what the Great Lake State has in place today.

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

Michigan • Mathematics

DOCUMENTS REVIEWED

Mathematics Grade Level Content Expectations v.12.05. March 2006.
Accessed from: http://www.michigan.gov/documents/MathGLCE_140486_7.pdf

Algebra I (v.09.09) and II (v.11.07), Geometry (v.11.07), and Pre-Calculus.
Accessed from: http://www.michigan.gov/mde/0,1607,7-140-38924_41644_42668---,00.html

Overview

Michigan's standards are well organized and clearly written. They cover much of the essential content with both depth and rigor, particularly in high school. Elementary school has many excellent features, but some of the basics for whole-number arithmetic are missing.

GRADE **A-**

Clarity and Specificity:	3/3
Content and Rigor:	6/7
Total State Score:	**9/10**

(*Common Core Grade: A-*)

General Organization

The K-8 standards are organized into five content strands such as Algebra and Geometry. The strands are divided into three or four domains, which are further organized by topics, then into grade-level expectations. Not all domains or strands appear in each grade. For example, the Algebra strand does not appear until sixth grade.

The high school standards are organized by course. Within each course the standards are organized similarly to K-8 but with different strands, domains, and topics.

Clarity and Specificity

The standards are well organized and easy to read and understand. They are stated clearly and succinctly, for example:

> Add and subtract money in dollars and cents (grade 3)
> Locate tenths and hundredths on a number line (grade 4)
> Express fractions and decimals as percentages and vice versa (grade 5)
> Convert ratio quantities between different systems of units, such as feet per second to miles per hour (grade 7)

While the succinctness of the standards results in many per grade—fifty-five in fourth grade alone—breaking the standards down into these discrete small bites generally serves to add to specificity rather than detract from clarity.

In high school, particularly in the generally rigorous Algebra I, some standards are either too vague or too general to give proper guidance, for example:

> Identify and interpret the key features of a function from its graph or its formula(s) (high school)
> Write the general symbolic forms that characterize each family of functions (high school)
> Identify the family of function best suited for modeling a given real-world situation (high school)

It is not clear what students are expected to know or what kinds of problems they should be able to solve.

Though not all standards are clear, Michigan's grade-level expectations are generally well organized and easy to read and interpret. They provide solid guidance to users about the content and skills students must master and therefore merit three points out of three for Clarity and Specificity (see *Common Grading Metric*, Appendix A).

Content and Rigor

Content Priorities

The majority of the standards in elementary grades are focused on arithmetic. This appropriately prioritizes arithmetic, which should be the foundation of elementary- and middle-school mathematics.

Content Strengths

Michigan's standards include most of the essential content. Many of the K-8 standards, in particular, give excellent guidance on the mathematical content that students must master. The number line appears early and is included throughout. The development of fractions is notably strong. In fourth grade, two topics are "Understand Fractions" and "Add and Subtract Fractions." In fifth grade, the often neglected topic of common denominators appears explicitly under the topic "Add and Subtract Fractions Using Common Denominators." Also, the concept of fractions as division is made explicit with:

> Understand a fraction as a statement of division (grade 5)

The invert and multiply formula for the division of fractions is done better than in most textbooks:

> Understand division of fractions as the inverse of multiplication, e.g., if 4/5 ÷ 2/3 = ☐, then 2/3 • ☐ = 4/5, so ☐ = 4/5 • 3/2 =12/10 (grade 6)

The development of area is also strong, including, for example, the following standards:

> Know the definition of area and perimeter and calculate the perimeter of a square and rectangle given whole-number side lengths (grade 3)
>
> Use square units in calculating area by covering the region and counting the number of square units (grade 3)
>
> Know and understand the formulas for perimeter and area of a square and a rectangle; calculate the perimeters and areas of these shapes and combinations of these shapes using the formulas (grade 4)

The standards for high school are often well stated and rigorous, including most STEM-ready standards.

Linear equations are well covered. In this Algebra I example, linear equations' various forms and the ability to convert between them are made explicit:

> Write the symbolic forms of linear functions (standard, point-slope, and slope-intercept) given appropriate information and convert between forms (high school)

The geometry standards are excellent. Not only do they include proofs, they set up the foundation for geometry with:

> Recognize Euclidean geometry as an axiom system. Know the key axioms and understand the meaning of and distinguish between undefined terms, axioms, definitions, and theorems (high school)

In addition, important facets of quadratic equations are stated clearly:

> Convert quadratic functions from standard to vertex form by completing the square (high school)
>
> Express quadratic functions in vertex form to identify their maxima or minima and in factored form to identify their zeros (high school)

Content Weaknesses

Michigan does not develop the foundation for whole-number arithmetic sufficiently. The standards do not adequately specify that students have automaticity, or quick recall, of basic number facts. These are the basic building blocks for future mathematics; students who are still struggling with basic facts are not prepared to move on to the next level of mathematics.

Moreover, students are expected to know, not necessarily instantly recall, only the facts for addition. The others they can solve for or find. Students should not be struggling with basic number facts as they continue on to more difficult mathematics.

The standards do call for fluency with basic whole-number operations, but they do not adequately include standard methods and procedures. For example, the following second-grade standard mentions strategies and algorithms, but does not specify what algorithms are to be used:

> Add fluently two numbers through 99, using strategies including formal algorithms; subtract fluently two numbers through 99 (grade 2)

High school covers much mathematics with both depth and rigor. In elementary school, arithmetic is appropriately prioritized, and fluency is required, but the standards do not support the standard algorithms. This minor problem results in a Content and Rigor score of six points out of seven (see *Common Grading Metric*, Appendix A).

The Bottom Line

With some minor differences, Common Core and Michigan both cover the essential content for a rigorous K-12 mathematics program. That said, Michigan's standards are exceptionally clear and well presented. Standards are briefly stated and sometimes clarified with the use of 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.

The chief weakness in Michigan's standards stems from their lack of specific content expectations in the development of arithmetic. Common Core provides admirable focus and explicitly requires standard methods and procedures, and the inclusion of those essential details would enhance Michigan's standards.