Iowa • English Language Arts

Overview

Iowa's standards are nearly impossible to evaluate because they are extremely broad in language and scope. The standards are presented by grade span (rather than grade by grade) and include only general statements that are repeated almost verbatim across spans. This combination of vaguely worded and repetitive standards makes it impossible to determine at what point students are expected to be held accountable for mastery of any specific knowledge or skills.

GRADE F

Clarity and Specificity:	0/3
Content and Rigor:	1/7
Total State Score:	**1/10**

(*Common Core Grade: B+*)

General Organization

Presented by grade spans (Primary/K-2, Intermediate/3-5, Middle/6-8, and High School/9-12), the Iowa standards are organized into five strands: Reading, Writing, Speaking, Listening, and Viewing.

Each strand contains several Essential Concepts/Skills that vary across grade spans, such as "Use multiple decoding strategies to read words in text" under Reading. These are followed by several student expectations.

Clarity and Specificity

The Iowa standards are persistently unclear and rarely specific. Take, for example, the following Writing and Reading standards:

Write using different formats:
- Letter
- Journal
- Narrative
- Expository paragraph
- Research report
- Poetry
- News article/editorial
- Script
- Radio announcement
- Blog (grades 3-5)

Read for a variety of purposes and across content areas.
- Read for purposes relating to fiction and nonfiction:
  - For information
  - For enjoyment

Practice reading rate and strategies according to purpose:
- Read to study (grades K-2)

These vague, unmeasurable standards are typical of those found in virtually every strand and grade band.

Standards are also repeated verbatim, or nearly verbatim, across grade bands, making it nearly impossible to discern a progression of rigor from elementary through high school.

Taken together, these critical shortcomings make it almost impossible to identify the scope and sequence of the material.

Consequently, the standards earn zero points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Strengths

The Iowa standards for media literacy, under Viewing, contain some commendable content, as in this grade 6-8 standard:

> Analyze and evaluate the use of media to portray information:
> - Analyze the way the author selects information and uses visual language to influence readers/viewers
> - Explain the role of advertising as part of an informational media presentation
> - Evaluate the effectiveness of visual media in presenting information and viewpoints (grades 6-8)

Within the writing strand is an unusual and welcome category of expectations for writing "on demand." For example:

> Write on demand:
> - Consider the purpose and audience
> - Focus on the topic with ample supporting details and little or no extraneous information
> - Identify organizational format
> - Identify medium for communication
> - Draw upon experiences and observations
> - Use correct spelling of high-frequency and grade-level words; make few errors in punctuation and capitalization
> - Use language effectively by varying vocabulary and sentences
> - Synthesize information from multiple resources into a brief and focused response
> - Reflect writer's personal style and viewpoints to suit the purpose of writing (grades 9-12)

Employers and college faculty alike consistently prioritize this skill, so its inclusion here is a bright spot.

Content Weaknesses

In every strand, the standards are uneven in their level of detail, but mostly they overlook important content, as in the following K-2 "decoding" standard:

> Use multiple decoding strategies to read words in text:
> - Apply knowledge of letter/sound correspondence.
> - Recognize sight words
> - Look for parts within words
> - Skip the unknown word(s) and continue reading
> - Reread sentences/paragraphs
> - Look for graphic cues
> - Use the context of phrases, sentences, paragraphs, and text
> - Ask if the word(s) makes sense (grades K-2)

This is one of the more specific standards in the lot, yet still reveals unmeasurable expectations that also omit critical early reading content and skills such as phoneme-grapheme correspondence. The objectives read as incomplete statements. "Apply knowledge of letter/sound correspondence" *to (do) what?* Why should students look for parts within words? What kind of parts? What's more, the standards emphasize these sorts of comprehension strategies at the expense of phonemic awareness and phonics.

When it comes to vocabulary development, we find a few standards devoted to word analysis and etymology, but mostly they set meaningless expectations, such as:

Demonstrate flexibility in extending the meaning of words (grades 9-12)

Another meaningless vocabulary standard repeated at every level is "Read frequently and widely."

The Iowa standards do differentiate between literary and non-literary text, yet they're woefully deficient in rigorous content, focusing instead on reading strategies, as in the following lengthy standard for reading nonfiction:

Use a variety of skills and strategies to comprehend nonfiction and informational text.

Recognize text structure cues:

Description

Sequence or time order

Compare and contrast

Cause and effect

Problem-solution

Study graphic cues:

Titles

Headings

Photos

Illustrations

Charts

Tables

Graphs

Use comprehension strategies:

Identify purpose

Activate prior knowledge

Predict and verify

Ask and answer questions

Create visual images

Draw inferences

Monitor for comprehension

Employ fix-ups

Reread

Read ahead

Identify main ideas

Summarize

Draw conclusions

Evaluate

Synthesize

Engage in discussion

Write to learn (grades 3-5)

This lengthy example illustrates Iowa's emphasis on strategies without acknowledging content at all. No text types or characteristics of text types are identified here, nor does this voluminous standard identify student outcomes.

The standards could be improved by including measurable or verifiable tasks that hold students accountable for mastery (For example, "Identify headings and use them to predict main ideas in informational text.")

Standards for the study of literary text reveal similar problems. American literature is never mentioned, nor do the standards specify the quality or complexity of texts to be read; there are no reading lists or other guidance.

The Writing standards focus heavily on process and, while they attempt to address oral and written English language conventions, they remain sparse, overlooking key characteristics of writing genres and essential grammar, usage, and mechanics content (such as defining and using phrases and clauses correctly).

Iowa's standards for Listening and Speaking are also skeletal, as in the following standard:

Participate in a variety of communication situations.
- Participate in oral presentations for defined purposes.
- Deliver multimedia presentations.
- Present dramatic reading, recitations, and performances both in and out of the classroom (grades 9-12)

It is commendable that oral presentations and recitations are included, but the standard could be strengthened by also identifying specific components of oral presentations and methods by which they could be evaluated.

The standards contain almost none of the content specified in the *English Language Arts Content-Specific Criteria* (see Appendix A). High school is presented as one thin set of expectations for all four grades, omitting the majority of essential content. The Iowa standards therefore earn one point out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of F, Iowa'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 Hawkeye State has in place today.

Iowa • Mathematics

Overview

In K-8, Iowa's standards are well presented and cover some topics with both depth and rigor. There are some weaknesses in the development and prioritization of arithmetic. High school mathematics is unusually presented (see "General Organization") and is missing much of the essential content.

GRADE C	Clarity and Specificity:	2/3
	Content and Rigor:	3/7
	Total State Score:	**5/10**
	(*Common Core Grade: A-*)	

General Organization

Iowa's K-8 standards are organized into four "Essential Strands," including: Number and Operations, Algebra, Geometry and Measurement, and Data Analysis and Probability. For each strand, the state defines grade-specific "Essential Concepts," which are then divided into "Essential Skills." (In this review, we refer to the "Essential Skills" as "standards.") The Essential Concepts and Essential Skills are provided for the following grade bands: K-2, 3-5, and 6-8.

The organization of the high school standards is odd. Similar to the K-8 standards, they are divided into four strands: Algebra, Geometry, Statistics and Probability, and Quantitative Literacy. Each strand is divided into several "Essential Topics." Rather than provide traditional standards for each Essential Topic, however, the state merely provides a several-paragraph description of what students should know and be able to do.

Finally, the state provides an appendix with sample lessons and illustrative problems that address some of the material covered in the standards.

Clarity and Specificity

The K-8 standards are nicely written with generally clear statements such as:

> Relate multiplication and division as inverse operations and learn division facts by relating them to the appropriate multiplication facts (grades 3-5)
>
> Develop fluency with standard procedures for adding and subtracting fractions and decimals (grades 3-5)

The unusual presentation of the high school standards has resulted in a document which reads more like a planning guide than mathematical standards. The standards do not provide a sufficient level of detail to judge what is to be taught or how it is to be measured. For example:

> Students' experiences with functions should include analysis of families of functions (linear, quadratic, other polynomial, exponential, trigonometric, rational, and logarithmic). Students should also study absolute value, square root, cube root, and piecewise functions. Analysis of functions should include: zeros, maximum and minimum, domain and range, global and local behavior, intercepts, rate of change, and inverse functions (grades 9-12)

This reads like a laundry list of key words just strung together, and the reader has very little idea of what a student is expected to be able to do. Further, finding zeros, maximum, minimum, intercepts, and rates of change for polynomial and rational functions are generally topics for calculus classes.

While the K-8 standards are generally both clear and specific, the high school standards often lack specificity. Therefore, Iowa receives two points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Priorities

The standards do not explicitly prioritize the content and only about one-third of the elementary school standards are devoted to arithmetic. This does not sufficiently prioritize arithmetic.

Content Strengths

There are many high-quality standards. The standards cited above in "Clarity and Specificity" are examples of rigorous arithmetic standards. In addition, quick recall of basic facts is stated clearly:

> Develop and demonstrate quick recall of basic addition facts to 20 and related subtraction facts (grades K-2)

> Extend their work with multiplication and division strategies to develop fluency and recall of multiplication and division facts (grades 3-5)

The middle school development of geometry is also strong. It includes the excellent standard:

> Understand that the slope of a line is constant, for example by using similar triangles (e.g., as shown in the rise and run of "slope triangles"), and compute the slope of a line using any two points on the line (grades 6-8)

This standard is crucial in showing that the slope of a line is well defined.

Content Weaknesses

The standards do not adequately support fluency with whole-number arithmetic. Consider this addition and subtraction thread in the K-2 grade band:

> Add and subtract two-digit numbers efficiently and accurately using a procedure that can be generalized, including the standard algorithm, and describe why the procedure works (grades K-2)

> Use mental strategies, invented algorithms, and traditional algorithms based on knowledge of place value to add and subtract two-digit numbers (grades K-2)

These two standards, taken together, do not support true fluency with addition and subtraction. The efficiency and accuracy called for in the first standard is entirely appropriate, but a rigorous treatment of it requires standard algorithms. While use of the standard algorithms is specified, invented algorithms are given equal status.

Whole-number multiplication and division are also inadequately covered. Fluency is required, but the standard algorithms are not specified. Worse, multiple methods, which may undermine students' mastery, are included, as in the following standard:

> [Students will] [a]pply their understanding of models for multiplication (i.e., equal-sized groups, arrays, area models), place value, and properties of operations (in particular, the distributive property) as they develop, discuss, and use efficient, accurate, and generalizable methods to multiply multidigit whole numbers (grades 3-5)

As discussed above, the high school standards are almost completely lacking the specificity required to assess the content. One example is for quadratics—solving quadratic equations is mentioned explicitly only in the sentence:

> A particular emphasis is on solving linear and quadratic equations (grades 9-12)

There is no mention of solving quadratics by factoring, completing the square, or by using the quadratic formula. For geometry, axioms and specific theorems are not mentioned. Proof is required, and there is a sample problem involving proof, but the role of proof in geometry is unclear.

The arithmetic of polynomials is also not included. The introduction mentions that the standards are not sufficient for students planning to continue in college with majors requiring mathematics; nonetheless, the state should supply guidance for these students.

Iowa's standards contain some rich mathematics. The main failures are in the lack of detail provided for high school, and in the prioritization and development of whole-number arithmetic. The unusual presentation of the high school standards makes them read more like a planning guide than a set of measurable benchmarks. As they stand, much of the essential content is missing. These "serious problems, shortcomings, or errors" (see *Common Grading Metric*, Appendix A) result in a Content and Rigor score of three points out of seven.

The Bottom Line

With their grade of C, Iowa's mathematics standards are mediocre, while those developed by the Common Core State Standards Initiative earn an impressive A-minus. The CCSS math standards are significantly superior to what the Hawkeye State has in place today.