Minnesota • English Language Arts

DOCUMENTS REVIEWED[1]

Minnesota Academic Standards: Language Arts K-12. May 19, 2003.
Accessed from: http://education.state.mn.us/mdeprod/groups/Standards/documents/LawStatute/000269.pdf

Overview

Minnesota's ELA standards are clearly organized and presented, and often include clear and detailed expectations. Unfortunately, the inclusion of vague standards coupled with the omission of some critical content across grade levels leaves teachers in the North Star State without the guidance they need to drive rigorous curriculum, instruction, and assessment across all strands.

GRADE **C**

Clarity and Specificity:	2/3
Content and Rigor:	4/7
Total State Score:	**6/10**

(*Common Core Grade: B+*)

General Organization

The K-8 *Minnesota Academic Standards in Language Arts* are divided into three strands that span all grade levels: Reading and Literature; Speaking, Listening, and Viewing; and Writing. Each strand is divided into sub-strands, then further separated into grade-specific standards, and finally into detailed benchmarks.

The high school standards follow a similar structure, but grade-specific standards and benchmarks are not provided. Instead, standards and benchmarks for grades 9-12 are combined and written as "completion outcomes," which describe what students should know and be able to do upon completion of twelfth grade.

Clarity and Specificity

Minnesota's ELA standards are well organized. The structure of the standards is easily accessible, and grade-level expectations are clear.

In addition, many standards are written in easy to understand language that leaves little room for misinterpretation or confusion. In particular, the grammar standards spell out in detail exactly which English conventions students should master in each grade. For example:

> Apply punctuation conventions correctly in writing, including:
> a. apostrophes
> b. semi-colon
> c. capitalization of proper nouns
> d. abbreviations
> e. sentence beginnings and first words in quotes
> f. commas (in compound sentences, and after subordinating conjunctions, noun of address, and non-essential clauses)
> g. quotation marks (to identify dialogue) (grade 7)

Still, some standards and benchmarks are vague, lacking in the detail necessary for planning, instruction, and assessment development. For example:

> Read a variety of high-quality, traditional, classical and contemporary literary works specific to America, as well as significant works from other countries (grade 8)
>
> Participate in and follow agreed-upon rules for conversation and formal discussions in large and small groups (grade 4)
>
> Demonstrate active listening and comprehension (grade 4)

Specifying that students should follow "rules" or demonstrate "active listening," or generally encouraging students to read a "variety of high-quality texts" does not provide enough information to ensure that students across the state are being held to equally rigorous standards.

Because no grade-specific indicators are provided for high school, the secondary standards are particularly vague and make it difficult to understand the scope and sequence of essential skills. Take, for example, the following writing standard:

> Plan, organize and compose narrative, expository, descriptive, persuasive, critical and research writing to address a specific audience and purpose (grades 9-12)

This is so general that it's impossible to know which genres should be prioritized across grades or what is an appropriate progression of skills within each genre.

These shortcomings make the scope and sequence of the material across grades unclear, earning the standards two points out of three for Clarity and Specificity. (See *Common Grading Metric,* Appendix A.)

Content and Rigor

Content Strengths

Minnesota provides reasonably detailed expectations for writing, including research and conventions. These include a separate and detailed sub-strand for research; clearly delineated expectations for conventions that students are expected to master in each K-8 grade; and admirable encouragement for grammar to be taught as a separate unit, thus underscoring the importance of the explicit and focused grammar standards.

Although sometimes repetitive across grade levels, the Literature strand includes several standards that outline clear expectations for reading literary texts, such as:

> Identify first person and third person point of view (grade 4)
>
> Identify and determine the meanings of similes and metaphors (grade 4)
>
> Critically read and evaluate text to determine author's purpose and point of view (grade 4)

While they don't always clearly progress across grades, the standards are reasonably strong in listening and speaking, such as the following seventh-grade standards:

> Distinguish between speaker's opinion and verifiable facts and analyze the credibility of the presentation (grade 7)
>
> Adjust delivery and language in oral presentations for the intended audiences and purposes (grade 7)
>
> Perform expressive oral readings of prose, poetry or drama (grade 7)

The standards also include expectations for analysis of information presented in multimedia formats.

Finally, high school provides some useful standards for reading and analyzing informational text, such as:

> Summarize and paraphrase main idea and supporting details (grades 9-12)
>
> Trace the logical development of an author's argument, point of view or perspective and evaluate the adequacy, accuracy and appropriateness of the author's evidence in a persuasive text (grades 9-12)
>
> Identify, understand and explain the various types of fallacies in logic (grades 9-12)

These standards could be enhanced through language clarification and grade-specific indicators.

Content Weaknesses

Minnesota ELA standards lack much critical content. Some are poorly written or vague; exemplar texts or rubrics would help clarify expectations, but these are not supplied.

Across all grade levels, the Reading standards fail to name any specific authors or works that students should read, nor do they refer to book lists. American literature (and literature of other cultures) is mentioned only in passing.

Expectations regarding text complexity across grade levels are also veiled, such as:

> Read, analyze and evaluate traditional, classical and contemporary works of literary merit from American literature (grades 9-12)
>
> Read, analyze and evaluate traditional, classical and contemporary works of literary merit from British literature (grades 9-12)
>
> Read, analyze and evaluate traditional, classical and contemporary works of literary merit from civilizations and countries around the world (grades 9-12)

The phrase "works of literary merit," absent guidance about how to judge whether a book meets that criterion, is open-ended and fails to delineate appropriate, rigorous texts for each grade.

While some expectations for the comprehension and analysis of literary and non-literary texts are clear, many are not. For example:

> Identify and understand recurring themes across literary works, citing evidence from texts (grade 8)
>
> Identify and analyze structural elements particular to dramatic literature (grade 8)

Clear standards would specify the structural elements and recurring themes that students should study, and there would be a clear progression of this content across grade levels.

In writing, standards are focused on process almost to the exclusion of clarifying expectations for genre-specific writing. Similarly, the reading standards seem to emphasize the teaching of comprehension strategies over content. For example:

> Notice when reading breaks down, reread and use phonetic and other strategies to self-correct (grade 3)
>
> Monitor comprehension and use strategies to self-correct when needed (grade 5)

Far too many standards in the reading strand are repeated almost verbatim from grade to grade, making it difficult to see a progression of rigor across grades.

Some standards—particularly vocabulary—expect students to master material that is never outlined in the standards themselves. For instance, sixth-grade students are supposed to employ knowledge of Latin and Greek roots, yet standards for K-5 never mention actually learning those roots.

Taken together, more than 35 percent of critical K-12 ELA content is missing, earning Minnesota a score of four points out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of C, Minnesota's ELA standards are mediocre. Those developed by the Common Core State Standards Initiative earn a solid B-plus. The CCSS ELA standards are superior to what the North Star State has in place today.

1 The Minnesota ELA standards have not changed since our last evaluation, the *State of State Standards 2005*. However, the evaluation criteria that we used to judge the 2010 standards have been substantially revised and improved since 2005. (See Appendix C for a complete explanation of changes in criteria.) These changes contributed to a change in Minnesota's final ELA grade: from a B to a C. The complete 2005 review can be found here: http://www.edexcellence.net/detail/news.cfm?news_id=337&pubsubid=1050#1050.

Minnesota • Mathematics

DOCUMENTS REVIEWED

Minnesota Academic Standards: Mathematics K-12. 2007.
Accessed from: http://education.state.mn.us/MDE/Academic_Excellence/Academic_Standards/Mathematics/index.html

Overview

Minnesota's standards are well organized, easy to read, and cover some content with depth and rigor. Arithmetic is appropriately prioritized but there are some issues with its coverage. The high school standards are sometimes strong but do not cover much STEM-ready content.

GRADE **B**

Clarity and Specificity:	2/3
Content and Rigor:	5/7
Total State Score:	**7/10**

(*Common Core Grade: A-*)

General Organization

The K-8 standards are organized by four content strands such as Numbers & Operation and Algebra. Each strand is then broken into topics, which are specific to each grade, and finally into grade-specific standards that detail what students should know and be able to do.

High school material is organized similarly, except that standards are presented together for grades 9-11. (No standards are included for grade 12.)

Clarity and Specificity

The standards are well presented, easy to read, and sometimes include examples to clarify intent. Statements are often clear and specific, such as:

> Demonstrate an understanding of the relationship between length and the numbers on a ruler by using a ruler to measure lengths to the nearest centimeter or inch (grade 3)
>
> Measure angles in geometric figures and real-world objects with a protractor or angle ruler (grade 4)

Some standards, however, are too broadly stated to be clear. These, for instance, have examples that do not provide sufficient clarification:

> Represent the relationship between two varying quantities with function rules, graphs and tables; translate between any two of these representations (grade 6)
>
> Obtain information and draw conclusions from graphs of functions and other relations (high school)

In high school, the standards are frequently too broadly stated to understand what, specifically, students should know and be able to do. In addition, the organization by strands is confusing and does not present related content coherently. For example, standards about specific topics, such as quadratic equations, may be scattered throughout the strands.

Minnesota's standards are often clear and specific. They make frequent use of examples to clarify the intent. However, many standards are too broadly stated to interpret. The standards "do not quite provide a complete guide to users" and receive a Clarity and Specificity score of two points out of three. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Priorities

Arithmetic is well prioritized—nearly half of the standards in the crucial grades address the development of arithmetic.

Content Strengths

The structures of arithmetic are well covered. The number line is introduced early and used throughout. Word problems also appear frequently. Understanding fraction multiplication and division is specified:

> Use the meanings of fractions, multiplication, division and the inverse relationship between multiplication and division to make sense of procedures for multiplying and dividing fractions
>
> For example: Just as 12/4 = 3 means 12 = 3 × 4, 2/3 ÷ 4/5 = 5/6 means 5/6 × 4/5 = 2/3. (grade 6)

Linear equations are covered quite well. Included are the following basic, but often overlooked, standards:

> Understand that a function is linear if it can be expressed in the form f(x)=mx+b or if its graph is a straight line (grade 8)
>
> Express linear equations in slope-intercept, point-slope and standard forms, and convert between these forms. Given sufficient information, find an equation of a line (grade 8)

Quadratics are covered in unusual depth, as in the following example:

> Identify the vertex, line of symmetry and intercepts of the parabola corresponding to a quadratic function, using symbolic and graphical methods, when the function is expressed in the form $f(x) = ax^2 + bx + c$, in the form $f(x) = a(x - h)^2 + k$, or in factored form (grades 9-11)

The arithmetic of polynomials and rational expressions is included.

High school geometry sets up the foundations of geometry and discusses proofs. The actual standards emphasize applying results rather than proving basic theorems, but the examples make it clear that proof is important, as in:

> Know and apply properties of equilateral, isosceles and scalene triangles to solve problems and logically justify results
>
> For example: Use the triangle inequality to prove that the perimeter of a quadrilateral is larger than the sum of the lengths of its diagonals (grades 9-11)

Content Weaknesses

The development of arithmetic is problematic, in part because instant recall of the number facts is not explicitly required. In addition, the standards undermine mastery of the standard algorithms by allowing any procedure to be acceptable as long as students have touched briefly on the standard algorithms:

> Add and subtract multi-digit numbers, using efficient and generalizable procedures based on knowledge of place value, including standard algorithms (grade 3)
>
> Multiply multi-digit numbers, using efficient and generalizable procedures, based on knowledge of place value, including standard algorithms (grade 4)

Division is handled the same way. This lack of support for standard procedures continues through the fractions and decimals, and the integers and rational numbers, strands:

> Add and subtract decimals and fractions, using efficient and generalizable procedures, including standard algorithms (grade 5)
>
> Multiply and divide decimals and fractions, using efficient and generalizable procedures, including standard algorithms (grade 6)

Common denominators are not mentioned.

The standards are infused with the use of calculators and other technologies when it comes to doing arithmetic in applications, for example:

> Use addition and subtraction to solve real-world and mathematical problems involving whole numbers. Use various strategies, including the relationship between addition and subtraction, the use of technology, and the context of the problem to assess the reasonableness of results (grade 3)

The high school content is missing much STEM-ready material. This includes more advanced content for trigonometry, series, and logarithms.

Minnesota's standards include some mathematically rich content and are often strong. Arithmetic is well prioritized but its development is not quite rigorous enough. Calculators and other technology appear too frequently in the standards. The high school content is missing some of the STEM-ready content. The missing "crucial content" results in a Content and Rigor score of five points out of seven. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of B, Minnesota's mathematics standards are decent, while those developed by the Common Core State Standards Initiative earn an impressive A-minus. The CCSS math standards are superior to what the North Star State has in place today.