

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

New Hampshire • English Language Arts

DOCUMENTS REVIEWED

K-12 Reading New Hampshire Curriculum Framework. June 2006.

Accessed from: http://www.education.nh.gov/instruction/curriculum/english_lang/documents/reading_frame.pdf

K-12 Writing and Oral Communication Curriculum Framework. June 2006.

Accessed from: http://www.education.nh.gov/instruction/curriculum/english_lang/documents/writing_frame.pdf

Overview

The New Hampshire standards are generally clearly written and specific, but their presentation is confusing and difficult to follow. In addition, the state fails to prioritize essential content and includes inappropriate or unnecessary standards that distract from the good content that is included throughout.



Clarity and Specificity: 2/3

Content and Rigor: 4/7

Total State Score: 6/10

(Common Core Grade: B+)

General Organization

The New Hampshire ELA standards are organized into two broad categories: standards for reading and standards for written and oral communication. Eight appendices (six for reading and two for writing) are also included.

For each of the two categories, the state presents seven or eight “strands.” In reading, for example, the strands include: Early Strategies for Reading, Reading Fluency and Accuracy, Vocabulary, and Reading Strategies. The strands are further subdivided into sub-strands, and finally into grade-level expectations (GLEs) for grades K-8, or grade-span expectations (GSEs) for grades 9-10 and 11-12.

Each GLE or GSE is introduced with a “stem” that repeats across the grades and is designed to “communicate the main curriculum and instructional focus of the GLE/GSE...” One of the stems under the “Word Identification Skills and Strategies” strand, for example, is:

Applies word identification/decoding strategies by...

The specific GLE or GSE completes the sentence.

Finally, throughout the document, the state indicates which GLEs/GSEs are assessed on the state test and which are not (the latter being reserved for “local curriculum and assessment”).

Clarity and Specificity

The New Hampshire ELA standards are frequently clearly written and specific. For example,

Demonstrate initial understanding of elements of literary texts by...[i]dentifying literary devices as appropriate to genre: rhyme, alliteration, simile, description, or dialogue (grade 4)

In addition, the GLEs and GSEs often include concrete and helpful examples to further clarify expectations, such as:

Applies word identification and decoding strategies (leading to automaticity) by...[i]dentifying regularly spelled multi-syllabic words, by using knowledge of sounds, syllable types, or word patterns (including most common spellings for consonants and vowels, e.g., knot, catch, float, fight; or common suffixes)

- EXAMPLES: Students might be asked to match words to pictures or to match words to words with similar sounds (e.g., flower and shower)
- EXAMPLES (multi-syllabic words): happiness, shower, sunshine (grade 2)

Unfortunately, the clarity and specificity of the standards is somewhat offset by an overly complex structure. The standards feature a six-page introduction that obfuscates more than it clarifies; in fact, it inaccurately describes the organization of the standards themselves. (The introduction, for instance, claims that the reading standards are divided into five strands, but there are actually eight.)

In addition, as mentioned above, the state distinguishes between standards that are assessed on the state test and those that are not. But the manner in which this is explained is anything but simple:

...GLEs and GSEs are meant to capture the “big ideas” of reading that can be assessed, without narrowing the curriculum locally. They are not intended to represent the full reading curriculum for instruction and assessment locally, at each grade. The set of GLEs/GSEs includes concepts and skills intended to be assessed on demand, in a large-scale assessment (indicated by “State”) and other GLEs/GSEs (indicated by “Local”) for Local assessment purposes only. All of the Reading GLEs/GSEs described in this document are expected to be assessed Locally, even if indicated for large-scale assessment...

Grade Level/Span Expectations—at any grade—represent reading content knowledge and skills **introduced instructionally at least one to two years before** students are expected to demonstrate confidence in applying them independently in an on-demand assessment (emphasis original)

The latter suggests that teachers should begin scaffolding each of the GLEs/GSEs two years *before* it appears as a standard, yet the state provides no guidance about what this scaffolding should look like.

Finally, the eight appendices are bulky. While some supply useful information, others could easily be deleted without compromising content (and, perhaps, adding clarity).

On balance, the inclusion of mostly clear and specific GLEs and GSEs is weakened by the standards’ too-complex structure, thus earning New Hampshire two points out of three for Clarity and Specificity. (See *Common Grading Metric*, Appendix A.)

Content and Rigor

Content Strengths

The standards include expectations for phonics, phonemic awareness, and vocabulary development in the early grades that are generally strong, including:

Demonstrates phonemic awareness by...[b]lending and segmenting phonemes in more complex one-syllable words (which may include combinations of blends and digraphs, as in th-i-ck, t-r-a-sh) (Kindergarten)

Shows breadth of vocabulary knowledge through demonstrating understanding of word meanings and relationships by...[s]electing appropriate words or explaining the use of words in context, including content specific vocabulary, words with multiple meanings, or precise vocabulary

- EXAMPLE (multiple meanings): Students explain the intended meanings of words found in text—“Based on the way ‘spring’ is used in this passage, would having a ‘spring’ be necessary for survival? Explain how you know” (grade 5)

The state also clearly prioritizes the study of both literary and non-literary texts and includes genre-specific content in both strands, such as:

Demonstrate initial understanding of elements of literary texts by...[i]dentifying or describing character(s), setting, problem/solution, major events, or plot, as appropriate to text; or identifying any significant changes in character(s) over time (grade 4)

Demonstrate initial understanding of informational texts (expository and practical texts) by...[o]rganizing information to show understanding (e.g., representing main/central ideas or details within text through charting, mapping, paraphrasing, summarizing, or comparing/contrasting) (grade 7)

Demonstrate initial understanding of informational texts (expository and practical texts) by...[i]dentifying the characteristics of a variety of types of text (e.g., reference: reports, magazines, newspapers, textbooks, biographies, autobiographies, Internet websites, public documents and discourse, essays, articles, technical manuals; and practical/functional: procedures/instructions, announcements, invitations, book orders, recipes, menus, advertisements, pamphlets, schedules) (grade 8)

One of the appendices also offers general guidance about the complexity of texts that students should be reading across grade levels.

Standards delineating genre-specific expectations for writing are included for each grade, including sub-strands devoted to persuasive, research, literary analysis, and narrative writing. The writing standards are strengthened by the inclusion of reasonably strong expectations for English language conventions, including:

In independent writing, students demonstrate command of appropriate English conventions by...[a]pplying rules of standard English usage to correct grammatical errors

- EXAMPLES: subject-verb agreement, pronoun-antecedent, consistency of verb tense, case of pronouns (grade 8)

The state also delineates clear expectations for listening and speaking, the delivery and evaluation of formal oral presentations, and group discussion.

Content Weaknesses

As noted above, New Hampshire delineates expectations for the analysis of literary and non-literary texts and includes general guidance about their usage at each grade level. The appendix appears to be intended to identify exemplar texts and authors that students should read. Unfortunately, this appendix includes virtually no actual titles or authors and therefore adds little value, as demonstrated by this suggested “list” of high school informational texts:

Informational Texts include, but are not limited to, Reference materials: Reports, magazines, newspapers, textbooks, biographies, autobiographies, Internet websites, legal documents (i.e., Supreme Court case decisions, lease agreements), public documents (drivers’ manuals) and discourse, essays (including literary criticisms), articles, technical manuals, editorials/commentaries, primary source documents, periodicals, job-related materials, speeches, on-line reading, documentaries, etc. [and] Practical/functional texts: Procedures/instructions, announcements, invitations, advertisements, pamphlets, schedules, memos, applications, catalogues, etc. (high school)

Standards addressing the research process and research writing are inadequate and often include sweeping language that provides little guidance to instructors.

In some cases, unnecessary and potentially distracting standards are included. For example, the “reading fluency and accuracy” sub-strand extends well beyond its usefulness into the upper grades and includes standards devoted to tracking student fluency and accuracy rates. In the upper grades, it’s more appropriate to evaluate reading comprehension and only resort to measuring fluency and accuracy when student comprehension of grade-appropriate texts is poor.

Finally, while the state includes much sound content, the standards fail to appropriately prioritize it. For instance, far too many expectations—and an entire appendix—are devoted to skills and strategies, such as reading comprehension and self-monitoring strategies. By failing to give clear priority to mastery of essential content, educators could easily focus excessive attention on teaching content-empty strategies and skills rather than genre-specific material.

Taken together, the omission of some critical content coupled with the inclusion of sometimes inappropriate or content-empty standards earns New Hampshire four points out of seven for Content and Rigor. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of C, New Hampshire'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 Granite State has in place today.

AS OF JUNE 20, 2010,
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New Hampshire • Mathematics

DOCUMENTS REVIEWED

K-12 Mathematics New Hampshire Curriculum Framework. June 2006.

Accessed from: <http://www.education.nh.gov/instruction/curriculum/math/documents/framework.pdf>

Overview

New Hampshire's standards are poorly organized and difficult to read. Whole-number arithmetic in the elementary grades is neither prioritized nor well developed. The high school standards, despite poor presentation, do include much of the essential content, including STEM-ready material.



Clarity and Specificity: 2/3

Content and Rigor: 3/7

Total State Score: 5/10

(Common Core Grade: A-)

General Organization

The K-8 standards are organized into four content strands: Number and Operations; Geometry and Measurement; Functions and Algebra; and Data, Statistics and Probability. There are also two process strands—Problem Solving, Reasoning, and Proof; and Communication, Connections, and Representations—that are less content-focused and meant to be integrated across the four content strands. The grade-level standards are organized by topic and all begin with the same or similar stem phrase, with that phrase having different completions in different grades.

High school standards are organized similarly but not divided by grade. They are instead divided into two categories: “High School” and “Advanced Mathematics.”

Clarity and Specificity

The standards are neither clear nor easy to read. The stem-phrase organization of the grade-level material is poorly implemented and results in many standards that are awkwardly worded and unnecessarily complex. For example, in the following standard, a simple expectation is conflated with data analysis expectations through the use of the stem phrase, which is in bold:

Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using more, less, or equal (grade 1) (emphasis added)

This pattern of unnecessary complexity continues in other ways. Consider this confusing “multi-stem” standard in eighth grade:

Demonstrates conceptual understanding of linear relationships ($y=kx$; $y=mx+b$) **as a constant rate of change** by solving problems involving the relationship between slope and rate of change; informally and formally determining slopes and intercepts represented in graphs, tables, or problem situations; or describing the meaning of slope and intercept in context; **and distinguishes between linear relationships (constant rates of change) and nonlinear relationships (varying rates of change)** represented in tables, graphs, equations, or problem situations; or **describes how change in the value of one variable relates to change in the value of a second variable** in problem situations with constant and varying rates of change (grade 8) (emphasis added)

This standard is not only difficult to read, it is also difficult to discern what students are expected to know and what kinds of problems they should be able to solve. For example, it is not clear how a student “informally” determines the slope of a line or “describes” varying rates of change.

The standards are difficult to read and many of them are not clear or measurable. They do not provide a “clear guide for users” (see *Common Grading Metric*, Appendix A), and receive a Clarity and Specificity score of one point out of three.

Content and Rigor

Content Priorities

New Hampshire has few standards per grade, which could have served to prioritize arithmetic in elementary school. However, standards about arithmetic comprise less than 30 percent of the standards, meaning that arithmetic is not properly prioritized.

Content Strengths

While K-8 content is severely deficient, the standards cover much of high school mathematics well, including STEM-ready material. They include polar coordinates, inverse trigonometric functions, trigonometry identities, and the arithmetic of rational expressions.

Content Weaknesses

Whole-number arithmetic is not adequately developed. Fluency with basic facts and standard procedures are not required. The overview of the Number and Operations strand states:

Having students know basic facts and having students compute fluently (i.e., accurately and efficiently) continues to be an important goal in mathematics education....A deep understanding of the operations and their properties will help students make sense of computation algorithms and lead to fluency in computation.

These laudable goals are not reflected in the standards themselves. The first building block for arithmetic is instant recall of the basic facts. The standards do not adequately specify that students have automaticity, or quick recall, of basic number facts, as in:

Mentally adds and subtracts whole-number facts through 20 (addends whose sum is at most 20 and related subtraction facts) (grades 2-4)

There are similar standards for multiplication and division facts.

The capstone for whole-number multiplication is this standard:

Accurately solves problems involving multiple operations on whole numbers or the use of the properties of factors and multiples; and addition or subtraction of decimals and positive proper fractions with like denominators. (Multiplication limited to 2 digits by 2 digits, and division limited to 1-digit divisors) (grade 4)

This is the only standard that explicitly mentions whole-number multiplication, and it does not ensure mastery. The poor development of arithmetic continues with fractions and decimals. Students are expected to be able to compute, yet common denominators are never mentioned nor are any standard procedures for these operations. While computational fluency is mentioned in the overviews, it is not supported within the standards.

In high school, there are some standards that are more appropriately covered in calculus classes than in regular high school mathematics. For example, this ambitious but overly broad multi-part standard requires calculus but is included among the high school standards:

Demonstrates conceptual understanding of linear and nonlinear functions and relations (including characteristics of classes of functions) through an analysis of constant, variable, or average rates of change, intercepts, domain, range, maximum and minimum values, increasing and decreasing intervals and rates of change (e.g., the height is increasing at a decreasing rate); describes how change in the value of one variable relates to change in the value of a second variable; or works between and among different representations of functions and relations (e.g., graphs, tables, equations, function notation) (high school)

In geometry, the role of proof is not clear. The standards do require proof, but no mention is made of axioms or pos-

tulates. The advanced mathematics material for high school makes reference to Euclidean systems, but the basic high school standards do not. Linear equations are missing point-slope form and finding the equation of a line through two points. Quadratics is missing complex roots, vertex form, and max/min problems.

While high school mathematics is covered reasonably well, including much STEM-ready content, the K-8 material fails to prioritize or sufficiently develop arithmetic. Neither computational fluency nor standard procedures are expected. These “serious” problems result in a Content and Rigor score of two points out of seven. (See *Common Grading Metric*, Appendix A.)

The Bottom Line

With their grade of D, New Hampshire’s mathematics standards are among the worst in the country, while those developed by the Common Core State Standards Initiative earn an impressive A-minus. The CCSS math standards are vastly superior to what the Granite State has in place today.