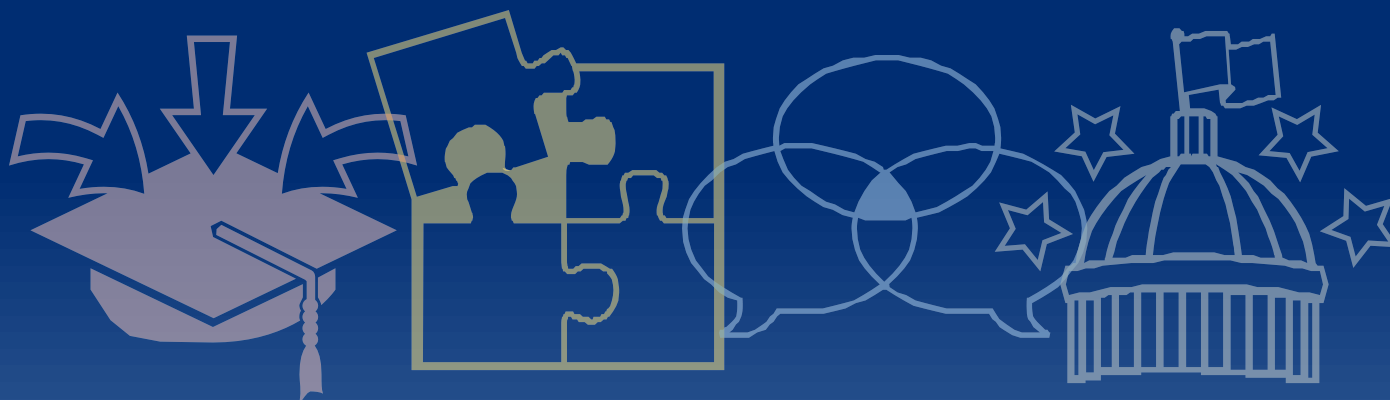




JOHNS HOPKINS
SCHOOL of EDUCATION

Institute for Education Policy



ELA Knowledge Map™



*A unique analytic resource enabling
policymakers, school leaders, and parents to
better understand the strengths and weaknesses
of the Abeka Grades K-12 English language arts
curriculum.*

Winter 2022



The achievement gap is, in large part, a knowledge gap. Compelling research strongly affirms that students' reading levels – particularly from fifth grade onwards – relate deeply to their level of background content knowledge.ⁱ Students in more affluent systems demonstrate more success in skill-based English language arts (ELA) assessments not only because they are better at “recognizing main ideas,” but also because they are far more likely to know more about the subject matter discussed in any given text. Research from around the world shows the same: [Most democracies around](#) the world require all schools to teach a standard body of knowledge; and a comprehensive, content-rich curriculum is a signature feature of [high-performing education systems](#). Despite the research record, a large number of the United States' ELA curricula treat texts not as a source of building knowledge, but merely as a site for attempting to hone abstract reading skills.

Determining whether a particular ELA curriculum is “standards aligned” is a helpful step, but it does not tell us about the knowledge-building capacity of that curriculum.ⁱⁱ For example: Instructional materials may use publisher-written texts that satisfy the standards-based requirement for “textual complexity,” but if the materials fail to offer students a sequenced, knowledge-rich learning experience they miss a critical opportunity to build reading fluency. Merely drilling students on “finding the main idea” will never help them become better readers. Instead, they need to understand what the text is really about - something that can only be achieved by acquiring the background knowledge.

The Johns Hopkins Institute for Education Policy (Institute) has developed the ELA Knowledge Map™, a tool with which to evaluate an ELA curriculum in terms of the knowledge it offers students, both about the world (mainly through nonfiction texts) and about psychology and the human condition (through both nonfiction and fiction texts). The Institute conducts this analysis by “mapping” the knowledge domains implicit in the selection of the documents to be read, while also evaluating each text's quality and the coherence of the unit in which is taught. To measure coherence, we assess the degree to

which supporting materials in a unit amplify and deepen the specific knowledge offered in the anchor text.

Each review generates two visual reports: *Knowledge Heat Maps* and *Unit Coherency Maps*.¹ The maps depict the fields of knowledge opened and those missed, in each grade and cumulatively, and with what quality of texts.

The Knowledge Map™ is a one-of-a-kind analytic resource that enables policymakers, school leaders, and parents to better understand the overall strengths and weaknesses of a given curriculum; instructional leaders to “fill in gaps” that might exist; and publishers to continuously improve the materials they offer the public.

For the present project, the Institute evaluated Abeka’s ELA curriculum for Grades K-12. Note that, because of the large amount of material within each grade, it was not possible to run proximity and coherence graphs, which are designed to show topical alignment within a given unit.

METHODOLOGY

- The Institute maps all items in the evaluated grades on three initial dimensions and at different grain sizes of coverage. For example, a letter by abolitionist Thomas Garrett about Harriet Tubman would be categorized like so:
 - Domain: U.S. History to 1865
 - Topic: Slavery/Abolition
 - Subtopics: Harriet Tubman; Underground Railroad
- The Institute evaluates the quality of every student-facing resource both individually and in the broader context of the unit.
- The Institute constructs a vertical mapping of the knowledge domains at each level, first by grade and then across multiple grades.
- The Institute creates a coverage report that visually illustrates the depth of emphasis a given domain receives across the grades.

HIGH-LEVEL FINDINGS

The Abeka curriculum offers a substantial knowledge-build in certain select domains. It provides some access to important texts from within American Literature and Global Literature, with the latter primarily sourced from Europe. There is also a keen focus on the development of character and social and emotional learning. On the other hand, many other areas of knowledge are omitted or only weakly included. (For details on which domains, please see the graphic reports below.)

Abeka’s worldview commitment crowds out or even distorts important content knowledge. The materials seem to view the acquisition of knowledge solely through the lens of Christian formation and

¹ Unit coherency maps will only be generated if the curriculum materials enable that form of analysis.

evangelization. No curriculum can be values-neutral, and the Institute’s review does not evaluate the merits of the philosophical frameworks that animate various curricula. Abeka’s distinctive worldview is no doubt one of its attractions to those who use it. However, the preference for evangelizing sometimes comes at a cost to coherent knowledge-building.

In the younger grades, for example, animals are often anthropomorphized to depict moral messages, without background knowledge about those animals *qua* animals (i.e., their habitats, nutritional requirements, sociability, parenting patterns, risk of extinction status, etc.). This feels like a missed opportunity.

In other places, the omissions are more serious and even distorting. For instance, in Grade 2, the texts on Benjamin Banneker discusses his success in terms of work ethic. But there are other factors specific to Banneker that made his accomplishments even more extraordinary, such as the slavery that preoccupied the abolitionist movement (which he endorsed) and the unique nature of his status as a free African American. Such texts are reductionistic in eliding these historical factors.

In Grade 5, we find a story called *David Livingstone: Learning to Work for God*. The focus is on Livingstone’s religious outreach to Africans. However, there is no mention of his campaign against slavery, about which he was notably vocal. Such historical detail is important and shows the depth of his commitments in the world. For Livingstone, as for William Wilberforce, belief in God meant more than evangelizing; it meant changing the social structures to align with Biblical views about the dignity of the human person. It is one thing for individuals or groups to take a (pietistic) stance that enjoins a retreat from engagement in the world, but it is quite another to recruit historical characters to this end who lived their faith entirely differently.

Second, our review found no confidence that students could or should begin to explore multiple layers of meaning in a strong poem or to apply their own background knowledge and understanding to texts. Even in Grade 11, by which time students should be engaging – routinely - in a challenging intellectual lift, the meanings of stories and poems are specified without nuance. This, too, feels like a missed opportunity to prepare students for the rigors of adult analysis and judgment.

Third, our review found that the quality of texts remains low for most grades. While some units, in some grades, received higher scores, the grade-level average *never exceeded 79%*.

INSTITUTE RECOMMENDATIONS

Parents and schools who adopt Abeka for its worldview-alignment may want to consider including additional materials in their children’s education that make for a more consistent knowledge-build and intellectual rigor. For instance:

- Using the Heat Maps below, identify important topics that are omitted and find high-quality sources to fill the gaps;
- Replace lower-quality resources with higher-quality sources that provide exemplary writing styles and richer background information on the same topics;
- Scaffold texts with richer background content where appropriate;
- Consider a wider range of authors from non-White backgrounds (investigate culturally-relevant texts in other curricula, consult with a local librarian to recommend strong additions; and
- Consider introducing a more dialogical approach to ELA as students enter secondary school.

ABEKA QUALITY ASSESSMENT

The unit quality varies throughout the Abeka curriculum. Figure 61 demonstrates overall quality scores, as well as high and low scores within each grade level. Seven grade levels – K, 1, 2, 4, 5, 6, and 9 – score below the Institute’s defined threshold for acceptable unit quality, while six score within the acceptable range. Consistency of units can be measured by the difference between high-quality and low-quality units within a grade – by this measure, Grade 11 is the most inconsistent, due to the high difference between the highest and lowest scores, while Grade 4 is the most consistent.

Grade	Overall Quality Score	Unit High Score	Unit Low Score	Difference (High-Low)
K	52.23%	75.50%	33.33%	42.17%
1	51.81%	63.21%	42.22%	20.99%
2	57.38%	68.25%	46.67%	21.58%
3	70.67%	93.33%	46.67%	46.66%
4	58.33%	73.33%	53.82%	19.51%
5	58.01%	93.33%	46.67%	46.66%
6	57.03%	66.67%	46.67%	20.00%
7	74.47%	100%	55.56%	44.44%
8	79.03%	91.11%	71.43%	19.68%
9	56.09%	71.43%	46.67%	24.76%
10	67.62%	93.33%	47.78%	45.55%
11	66.01%	100%	44.44%	55.56%
12	77.02%	100%	70.57%	29.43%

Figure 1. Summary of unit quality scores in Grades K-12.

ABEKA KNOWLEDGE HEAT MAPS: GRADES K-5

A critical gateway question covers how much exposure children receive to each important domain of knowledge and topics within them. Each heat map expresses the findings visually using a color-coding scheme, as shown in Figure 1. Lighter blue squares represent fewer knowledge-building texts, such as one or no text; while darker blue squares represent more knowledge-building texts, such as eight or more. The text analysis results for each of the eleven topical domains for Grades K-5 appear in Figures 2-12.

A mere mention of a topic does not necessarily indicate exposure to that topic. The Institute tags a topic only when the text’s presentation of it is robust enough for a student to convey specific facts about it. This metric considers the context of age and grade level.



Figure 2. Heat map color-coded rating scheme of knowledge building, where lighter blue indicates fewer texts and darker blue indicates a larger number of texts.

Strong Knowledge-Building Domains

The curriculum presents robust knowledge-building in several topics and domains (shown below alphabetically when similarly rated). Strong knowledge-building domains appear in the heat maps as dark blue, indicating many texts address the topic (i.e., the heat map categories of 8+ Texts or 5-7 Texts). Prevalence analysis divides the number of strong heat map ratings on a topic at grade level (i.e., number of darker blue squares) by the entire knowledge domain (i.e., total squares).

Three knowledge domains present the highest prevalence of strong knowledge-building texts, relative to the entire curriculum. These include: American Literature, 72.2% (n=13 of 18, Figure 3); Global Literature, 18.3% (n=15 of 18, Figure 4); and Social-Emotional, 63.0% (n=34 of 54, Figure 5).

Many knowledge domains exhibit patterns of strength in specific topics across grade bands. One pattern exhibits a high prevalence of strong knowledge-building texts across all grade levels. Examples include Poetry in American Literature (Figure 2), Poetry in Global Literature (Figure 3); and Emotions, Identity Development, and Responsible Decision-Making in Social-Emotional (Figure 4). The second noticeable pattern depicts a high prevalence of strong knowledge-building texts across four or five grade levels, including: Fiction in American Literature (Figure 2); Fables & Myths and Fiction in Global Literature (Figure 3); Relationship Skills in Social-Emotional (Figure 4); American Ideals, Culture, & Tradition in American History & Geography (Figure 5); Animals and Seasons, Weather & Meteorology in Science (Figure 7); and World Cultures & Traditions in World History & Geography (Figure 12). Patterns of strength within knowledge domains indicate that students receive strong reinforcement of specific topics throughout their elementary careers.

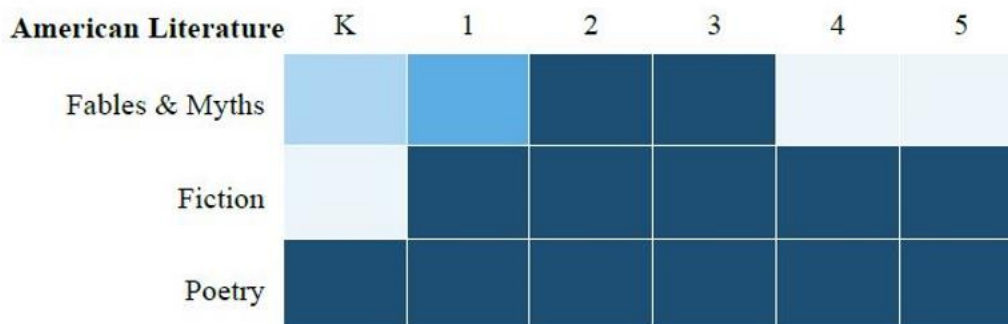


Figure 3. Heat map analysis of the American Literature knowledge domain in Grades K-5.

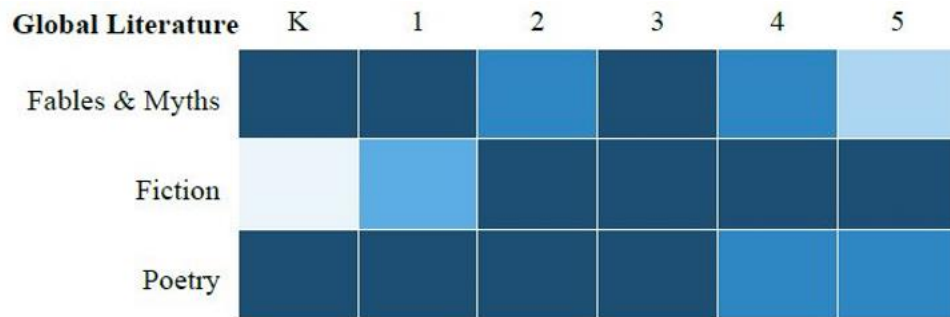


Figure 4. Heat map analysis of the Global Literature knowledge domain in Grades K-5.

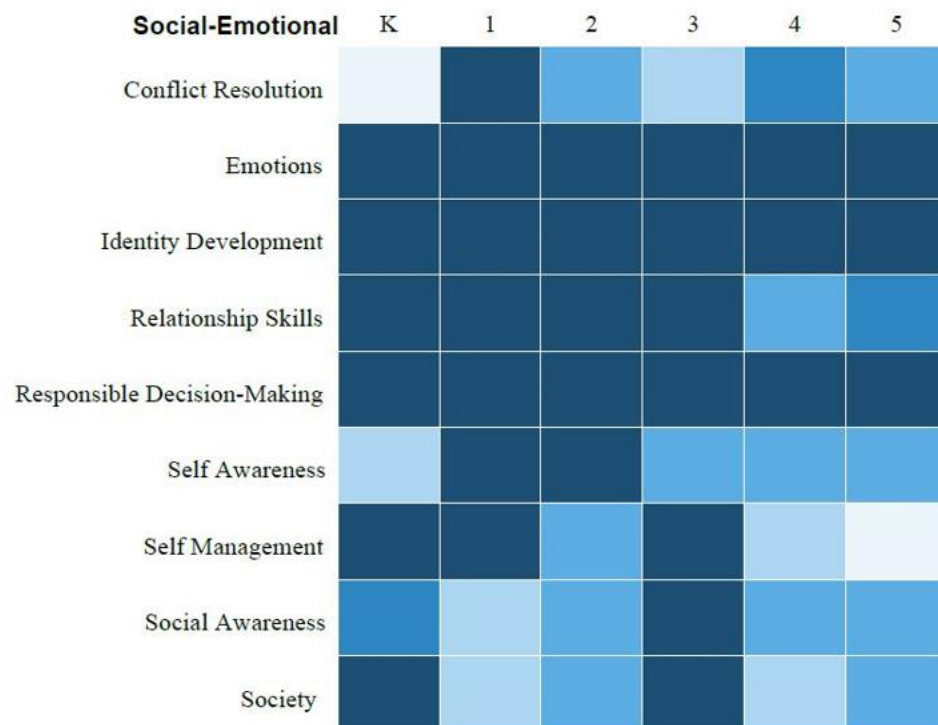


Figure 5. Heat map analysis of the Social-Emotional knowledge domain in Grades K-5.

Moderate Knowledge-Building Domains

The curriculum additionally presents moderate knowledge-building domains and topics. Moderate knowledge-building domains appear in the heat maps as mixed blue, indicating few-to-some texts addressing the topic (i.e., the heat map category of 2-4 Texts). Prevalence analysis divides the number of moderate heat map ratings on a subject at grade level (i.e., number of medium blue squares) by the entire knowledge domain (i.e., total squares).

Specifically, the reviewers note three knowledge domains for moderate prevalence of knowledge-building texts in all domain topics, relative to the entire curriculum. These domains include: American History & Geography, 12.9% (n=17 of 132, Figure 6); Diversity & Cultural Responsiveness, 12.5% (n=7 of 56, Figure 7); Science, 12.3% (n=14 of 114, Figure 8).

Specific patterns of moderate knowledge building arise within specific topics across grade bands. For example, the most common pattern presents moderate coverage in topics across 50.0% or more of grade levels. Examples of this pattern includes the topics of “Self-Awareness and Social Awareness” in Social-Emotional and “Presidents and Westward Expansion” in American History & Geography.

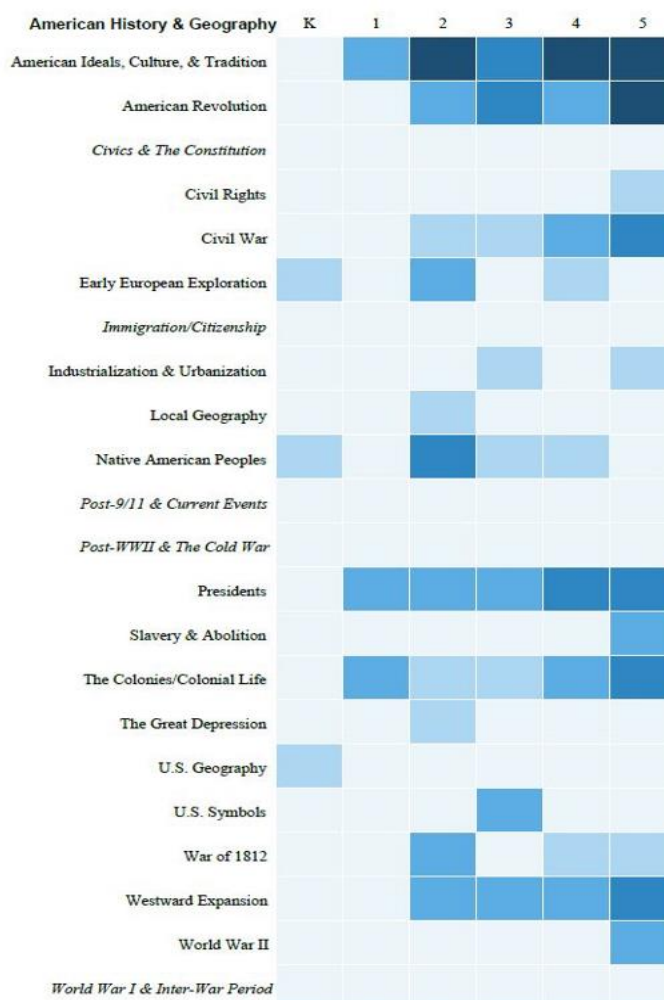


Figure 6. Heat map analysis of the American History & Geography knowledge domain in Grades K-5.

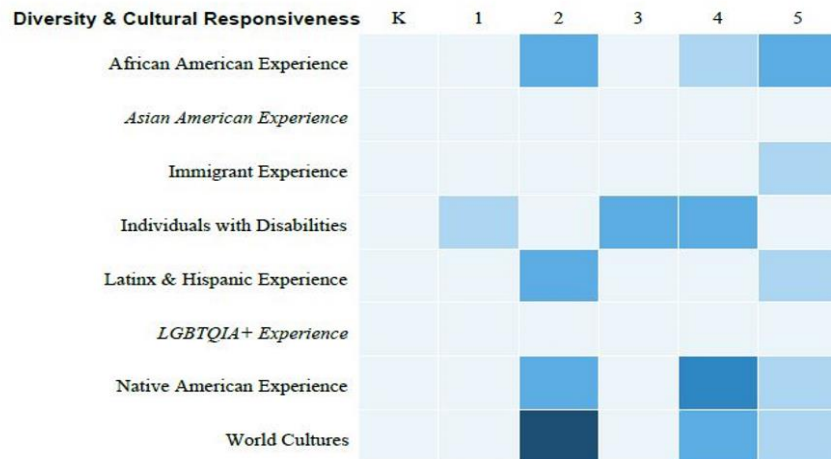


Figure 7. Heat map analysis of the Diversity & Cultural Responsiveness knowledge domain in Grades K-5.

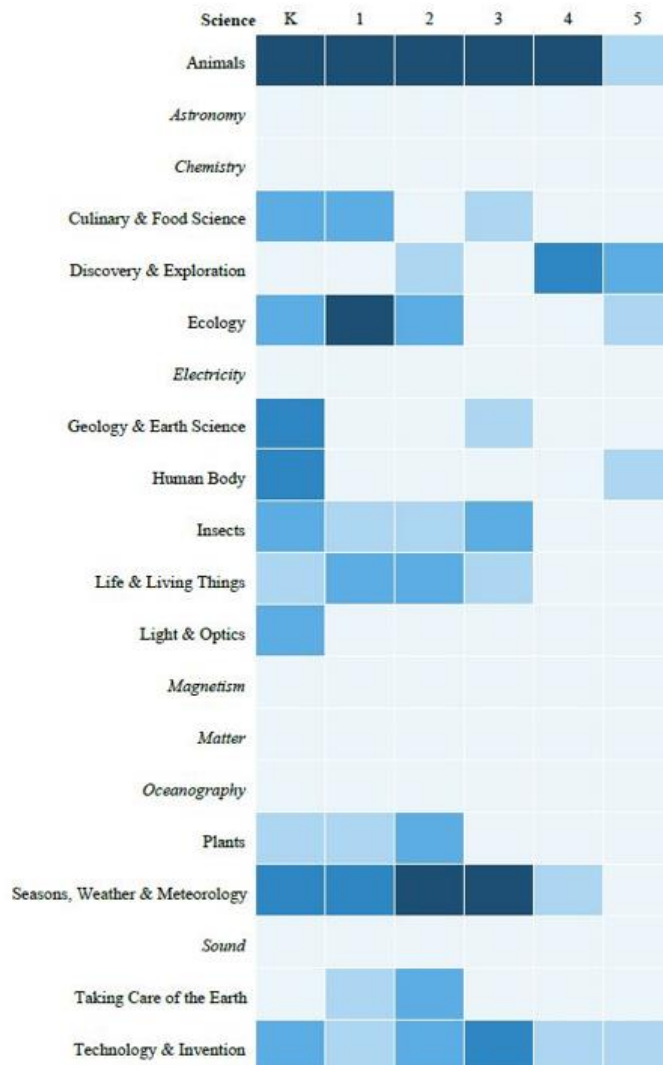


Figure 8. Heat map analysis of the Science knowledge domain in Grades K-5.

Weak Knowledge-Building Domains

The curriculum presents insufficient or weak knowledge-building in a few knowledge domains and topics. Weak knowledge-building domains appear in the heat maps as light blue or gray, indicating one or no texts address the topic. We do not perform prevalence analysis on weak domains because there is not enough data to be meaningful. However, domains with 60% or more of the topics showing no or one text are included in the Weak category. Specifically, researchers note five knowledge domains for weak knowledge-building texts in all domain topics. These include: Mathematics (Figure 8); Music & Performing Arts (Figure 9); Public Institutions (Figure 10); Visual Arts (Figure 11); and World History & Geography (Figure 12).

Apart from these overall weak domains, all other knowledge domains display specific weaknesses. One pattern of specific weakness is the absence of texts across grade levels. Some examples include Civics & The Constitution and Immigration/Citizenship in Figure 5; Asian American Experience and LGBTQIA+ experience in Figure 6; Banks and Museums in Figure 10; and Slavery, The Renaissance, and World War I and II in Figure 12.

A final pattern of weakness presents as a lack of domain coverage within a grade band. A visual scan of the Knowledge Map™ reveals this pattern as empty columns beneath individual grade levels. For example, Visual Arts (Figure 11) is a weak domain partly because grades K, 1, 2, and 4 contain no texts on any topic in the domain. Such absence may reflect curricular progression decisions and other factors, but significant gaps may still be worth examining.

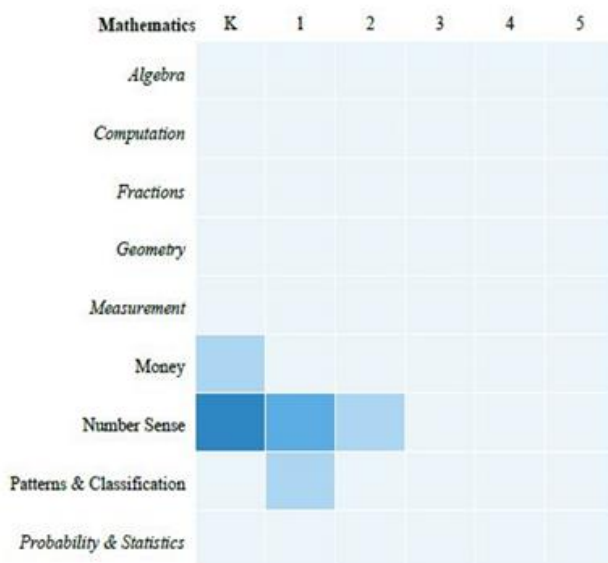


Figure 9. Heat map analysis of the Mathematics knowledge domain in Grades K-5.

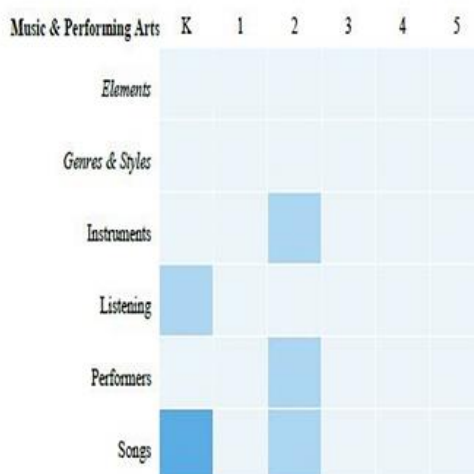


Figure 10. Heat map analysis of the Music & Performing Arts knowledge domain in Grades K-5.

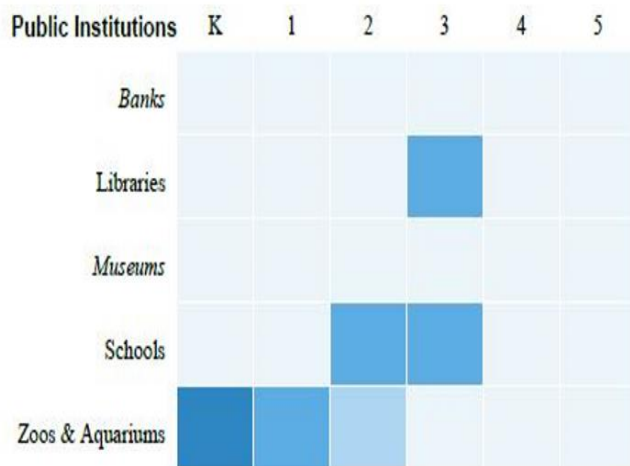


Figure 11. Heat map analysis of the Public Institutions knowledge domain in Grades K-5.

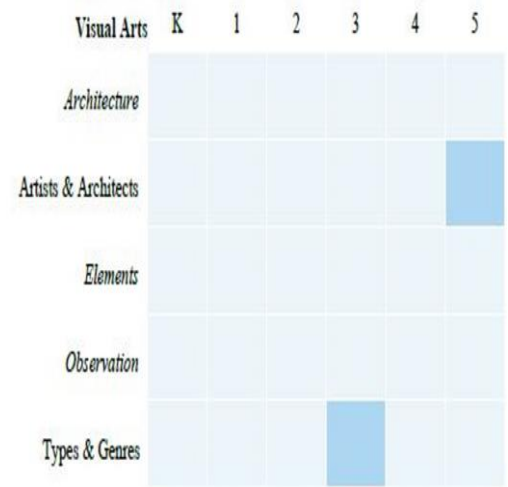


Figure 12. Heat map analysis of the Visual Arts knowledge domain in Grades K-5.

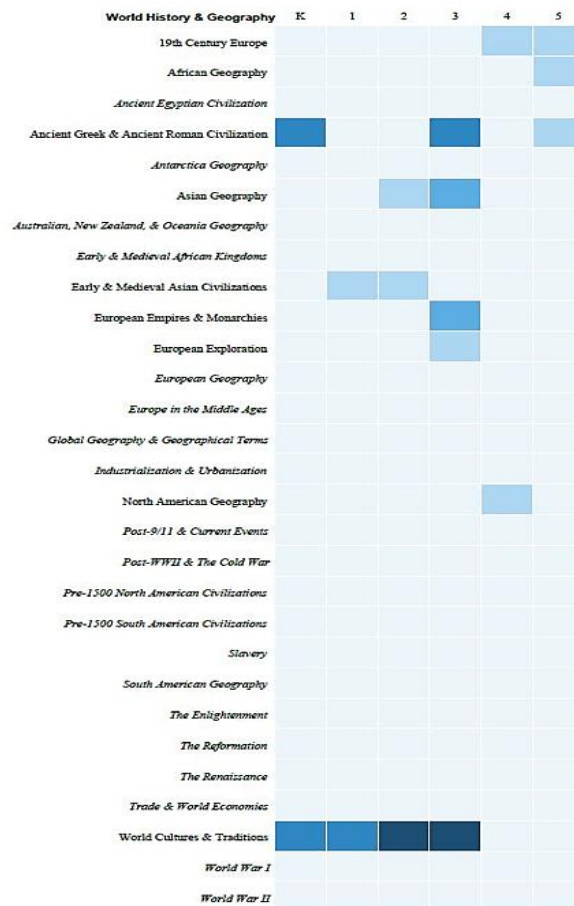


Figure 13. Heat map analysis of the World History & Geography knowledge domain in Grades K-5.

ABEKA KNOWLEDGE HEAT MAPS: GRADES 6-12

The Institute continued the heat map analysis of Grade 6 using the same criteria and processes as the prior analysis of grades K-5. Our findings of knowledge-building domains include strong, moderate, and weak ratings. Each heat map expresses the findings visually using a color-coding scheme, as shown in Figure 2. Lighter blue squares represent lesser numbers of knowledge-building texts, and darker blue squares represent greater numbers of knowledge-building texts. The results of text analysis for each of 22 topical domains for the Grades 6-12 curriculum appear in Figures 14-35, below.

For Heat map color-coded rating scheme, see Figure 2.

Strong Knowledge-Building Domains

The curriculum presents strong knowledge building in several domains and topics. Strong knowledge-building domains appear in the heat maps as dark blue, indicating many texts address the topic (i.e., the heat map categories of 8+ Texts or 5-7 Texts). Prevalence analysis divides the number of strong heat map ratings on a topic at grade level (i.e., number of darker blue squares) by the entire knowledge domain (i.e., total squares).

The Institute considers five knowledge domains as strong with a high prevalence of knowledge-building texts, relative to the entire curriculum: American Literature, 28.6% (n=26 of 91, Figure 14); British Literature, 15.4% (n= 14 of 91, Figure 15); Emotions, Being, & Personal Psychology, 73.8% (n=93 of 126, Figure 16); Religion, 17.5% (n=11 of 63, Figure 17); and Social Sciences (Politics, Economics, and Sociology), 18.1% (n=38 of 210, Figure 18). With nearly half of the knowledge domains classified as strong knowledge-builders, the curriculum demonstrate that students receive regular reinforcement of specific topics throughout Grades 6-12.

Knowledge domains exhibit patterns of strength in specific topics across grade bands. One pattern demonstrates high prevalence of strong knowledge-building texts across 100% of grade levels. Examples include Death, Human Condition, Love, Relationships, and The Self within Emotions, Being, & Personal Psychology (Figure 16); Christianity in Religion (Figure 17); and Short Story in Literary Genres (Figure 21).

Another pattern presents itself through strong knowledge-building texts across four or five grade levels. Examples include Modernism (1914-1945) and The Fireside Poets in American Literature (Figure 14); Victorian (1832-1901) in British Literature (Figure 15); Ethical Behavior and Heroism in Emotions, Being, & Personal Psychology (Figure 16); The Bible in Religion (Figure 17); Class, Community, and Religion & Society in Social Sciences (Politics, Economics, Sociology) (Figure 18); and Zoology & Animal Science in Earth, Life, & Medical Sciences (Figure 20). Patterns of strength within knowledge domains indicate that students infrequently receive strong reinforcement of specific topics throughout their secondary schooling.



Figure 14. Heat map analysis of the American Literature knowledge domain in Grades 6-12.

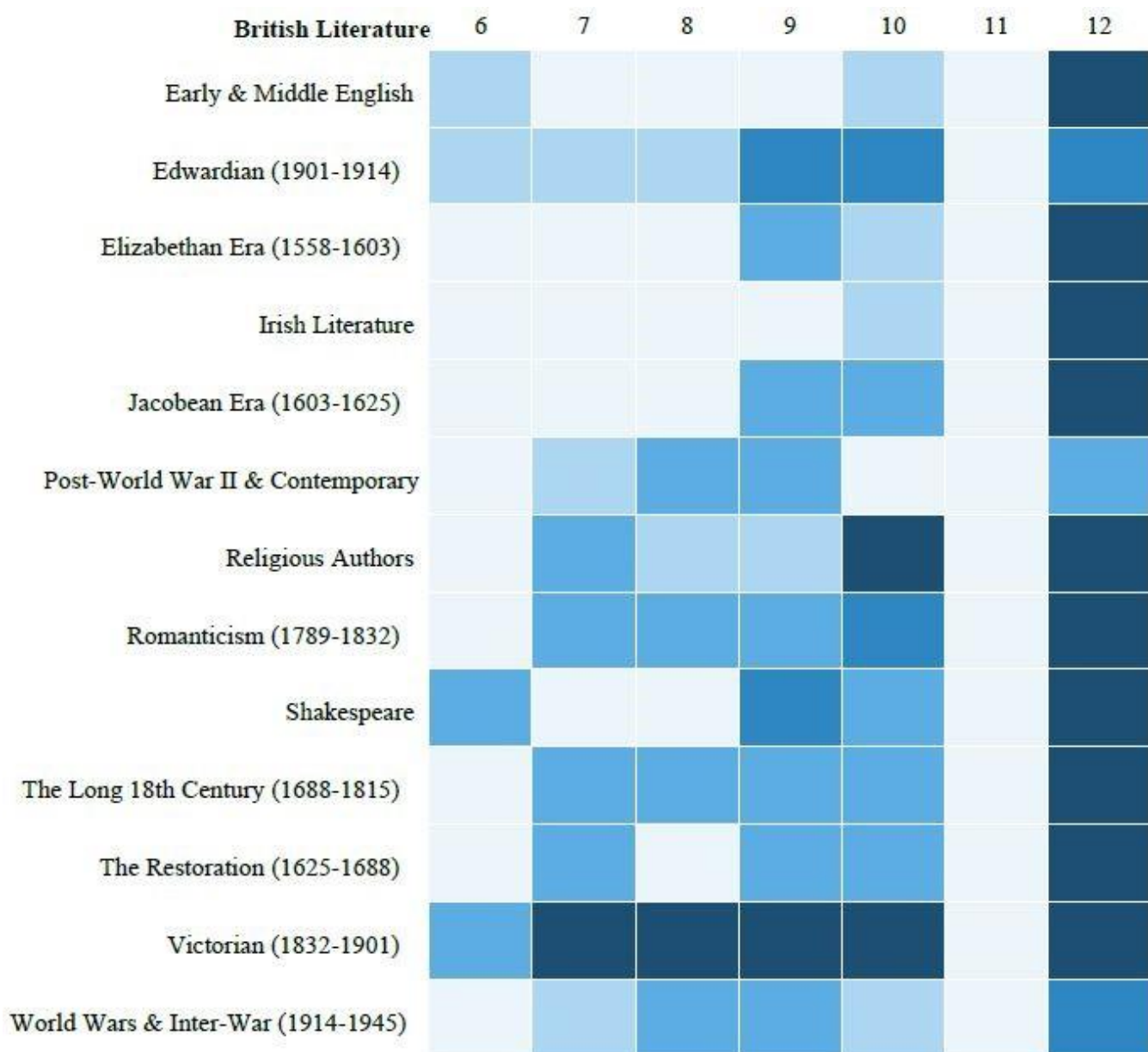


Figure 15. Heat map analysis of the British Literature knowledge domain in Grades 6-12.

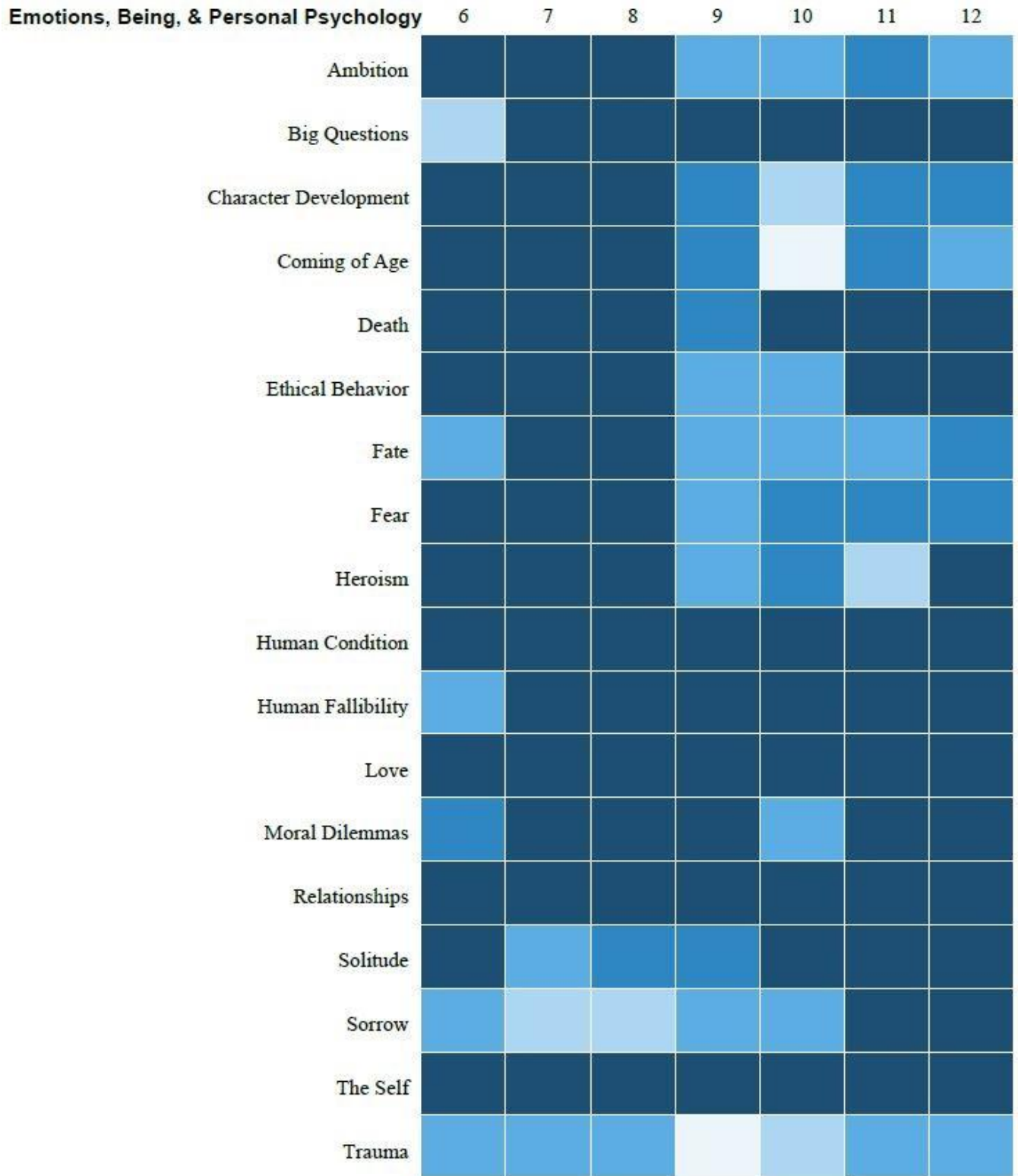


Figure 16. Heat map analysis of the Emotions, Being, & Personal Psychology knowledge domain in Grades 6-12.

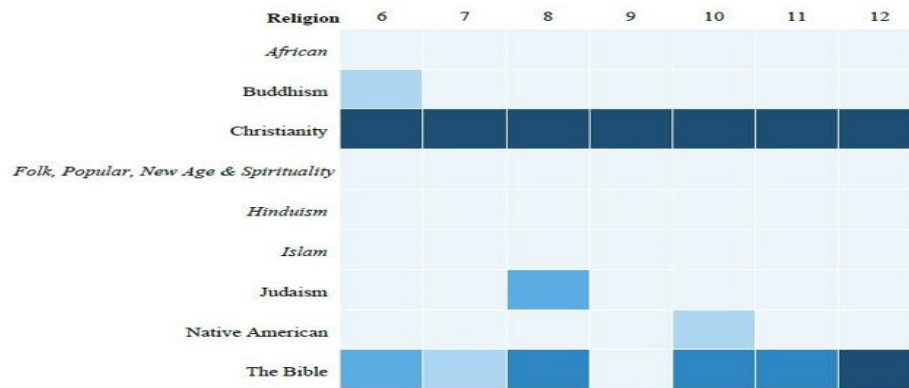


Figure 17. Heat map analysis of the Religion knowledge domain in Grades 6-12.

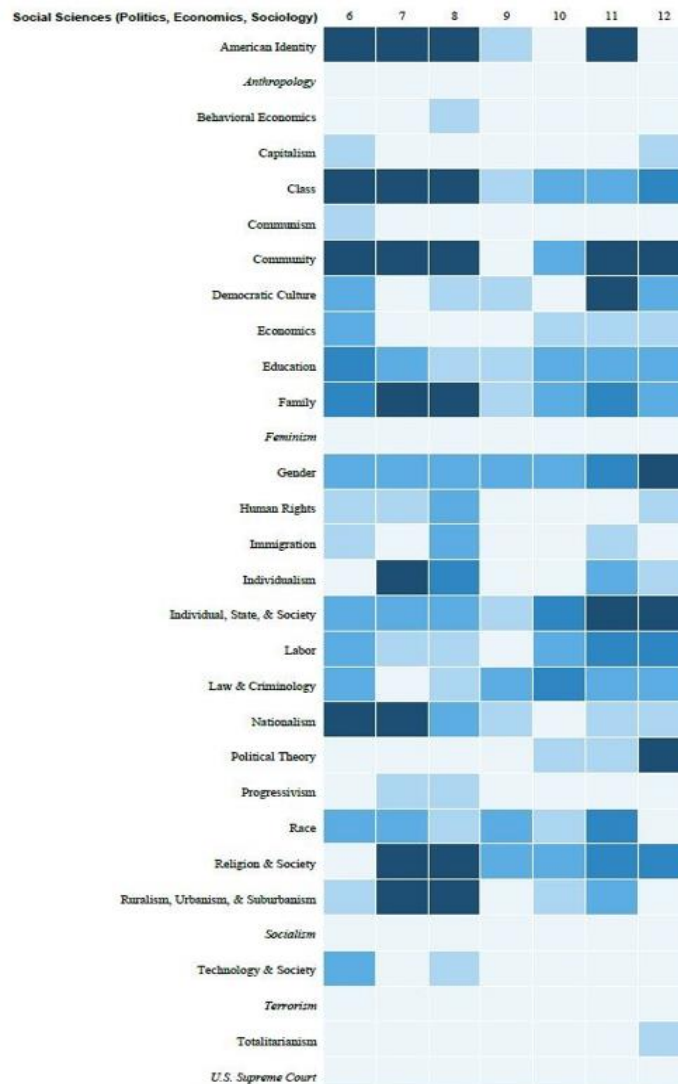


Figure 18. Heat map analysis of the Social Sciences (Politics, Economics, Sociology) knowledge domain in Grades 6-12.

Moderate Knowledge-Building Domains

Moderate knowledge-building domains appear in the heat maps as mixed blue, indicating few-to-some texts addressing the topic (i.e., the heat map category of 2-4 Texts). Prevalence analysis divides the number of moderate heat map ratings on a topic at grade level (i.e., number of medium blue squares) by the entire knowledge domain (i.e., total squares).

Our analysis shows four knowledge domains notable for moderate prevalence of texts in all domain topics, relative to the entire curriculum. These domains include: Diverse & Cultural Responsiveness, 23.2% (n=13 of 56, Figure 19); Earth, Life, & Medical Sciences, 17.6% (n=16 of 91, Figure 20); Literary Genres, 19.5% (n=15 of 77, Figure 21); and U.S. History to 1865, 21.4% (n=15 of 70, Figure 22).

Specific patterns of moderate knowledge-building arise within specific topics across grade bands. For example, one pattern presents moderate coverage in topics across 57.1% (n=4 of 7) or 71.4% (n=5 of 7) of grade levels. An example of this pattern includes the topics of Transcendentalism in American Literature (Figure 14); The Long 18th Century (1688-1815) in British Literature (Figure 15); Trauma in Emotions, Being, & Personal Psychology (Figure 16); Education and Gender in Social Sciences (Politics, Economics, Personal Psychology) (Figure 17); Native American Experience in Diverse & Cultural Responsiveness (Figure 19); Marine Biology & Oceanography in Earth, Life, & Medical Sciences (Figure 20); Drama in Literary Genres (Figure 21); and Europe in World History to 1600 (Figure 35). More commonly, knowledge domains present moderate coverage across three of seven grade levels. While plenty of examples exist, some include: African American Experience in Diverse & Cultural Responsiveness (Figure 19) and Civil War (1861-1865) in U.S. History to 1865 (Figure 22). These patterns reveal moderate knowledge building arising in many topics within and across grade levels.

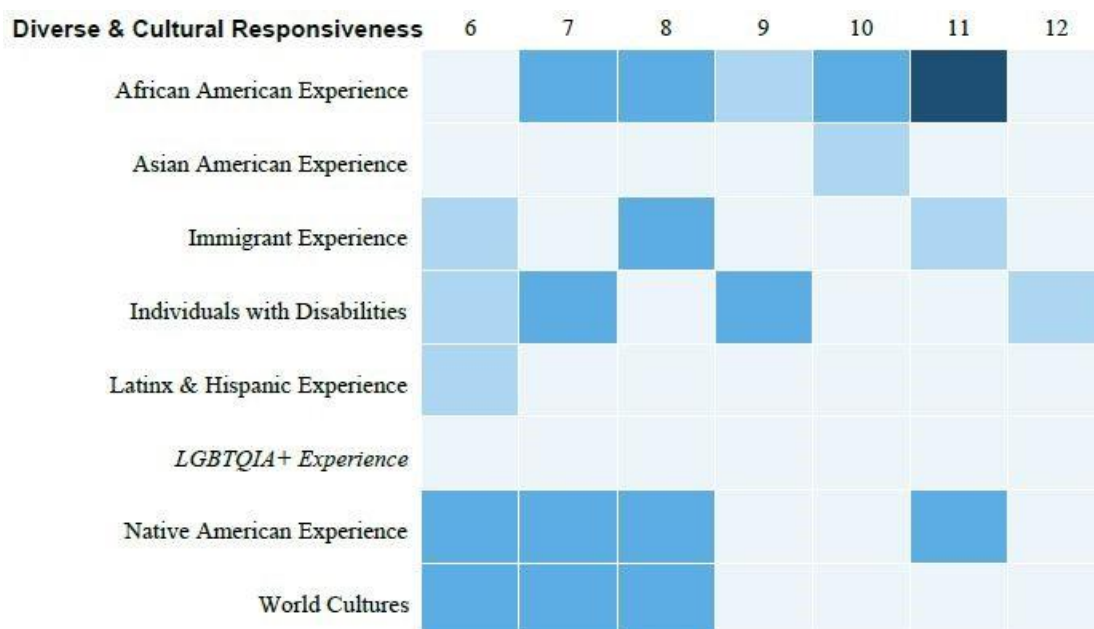


Figure 19. Heat map analysis of the Diverse & Cultural Responsiveness knowledge domain in Grades 6-12.

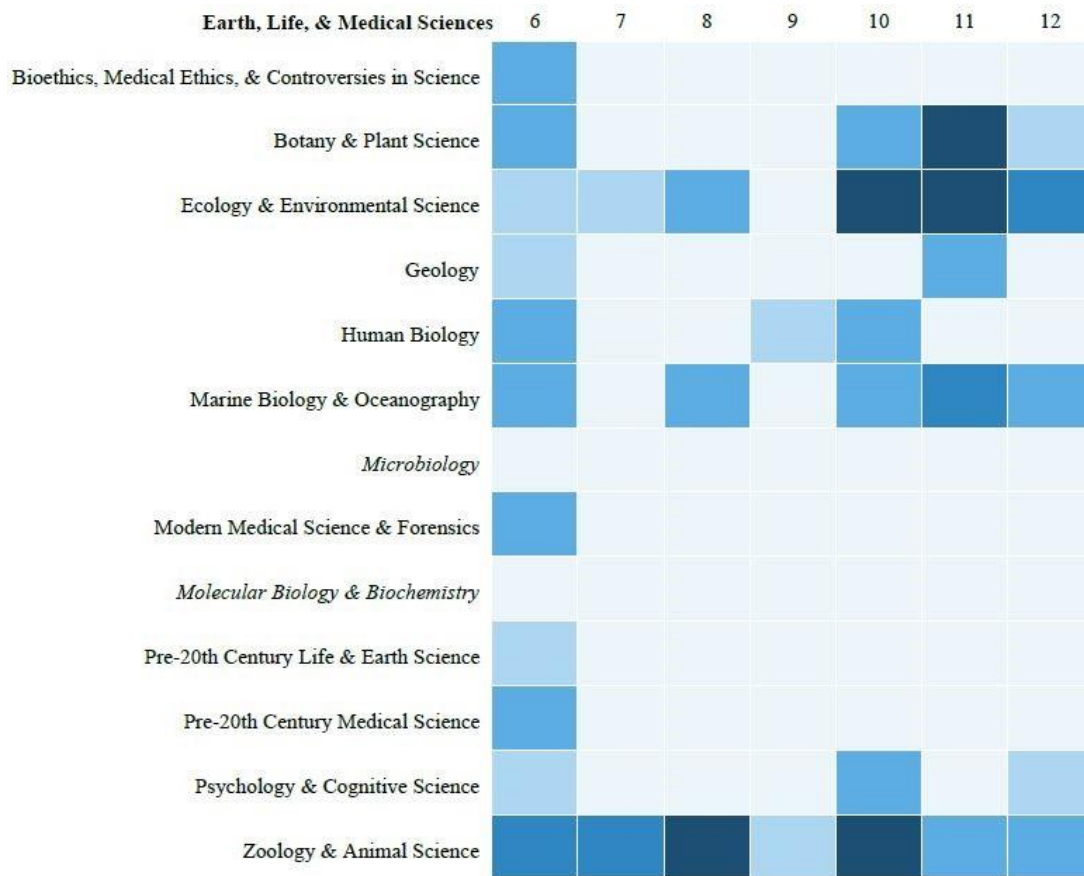


Figure 20. Heat map analysis of the Earth, Life, Medical Sciences knowledge domain in Grades 6-12.

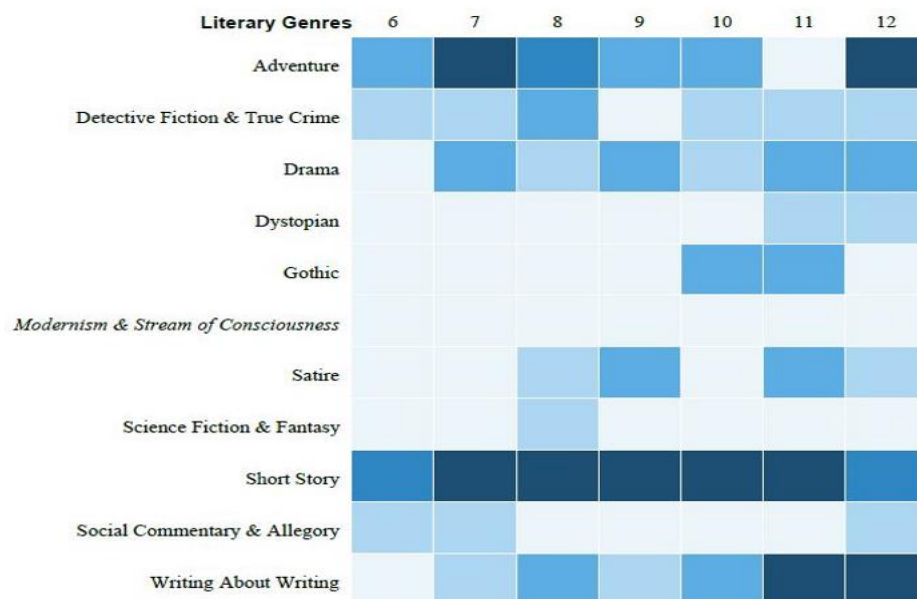


Figure 21. Heat map analysis of the Literary Genres knowledge domain in Grades 6-12.

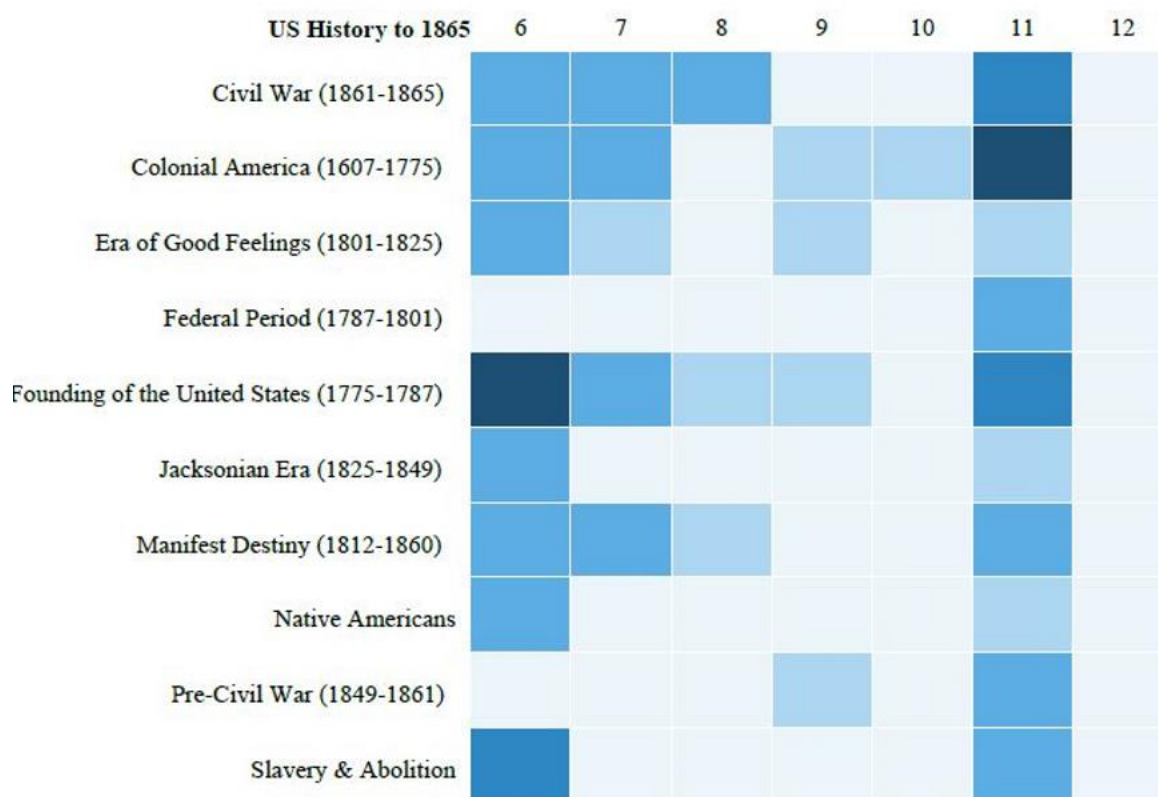


Figure 22. Heat map analysis of the U.S. History to 1865 knowledge domain in Grades 6-12.

Weak Knowledge-Building Domains

The curriculum presents insufficient or weak knowledge building in multiple knowledge domains and topics. Weak knowledge-building domains appear in the heat maps as light blue, indicating no texts address the topic. We do not perform prevalence analysis on weak domains because there is not enough data to be meaningful.

Specifically, 13 of 22 knowledge domains appear weak. These include: Global Literature (Figure 23); Linguistics & Language (Figure 24); Mathematics (Figure 25); Media (Figure 26); Music, Art, Architecture (Figure 27); Philosophy Proper (Figure 28); Physical Sciences (Figure 29); Technology (Figure 30); U.S. Geography (Figure 31); U.S. History Since 1865 (Figure 32); U.S. Geography (Figure 33); World History Since 1600 (Figure 34); and World History to 1600 (Figure 35). Moreover, one knowledge domain—Media—shows one text or less that address any topic within Grades 6-12. Text

absence may reflect curricular progression decisions and other factors, but significant gaps may be worth examining.

Apart from these overall weak domains, all other knowledge domains display specific weaknesses. One notable pattern of specific weakness is the absence of texts across grade levels. Some examples include: The Beat Movement (1950s) in American Literature (Figure 14); Anthropology or Feminism in Social Sciences (Politics, Economics, Sociology) (Figure 18); LGBTQIA+ Experience in Diverse & Cultural Responsiveness (Figure 19); Modernism & Stream of Consciousness in Literary Genres (Figure 21); African Literature & Mythology and Chinese Literature & Mythology in Global Literature (Figure 23); Harlem Renaissance or Photography in Music, Art, Architecture (Figure 27); Cold War (1946-1991) and Post-9/11 & Current Events in U.S. History Since 1865 (Figure 32); and Africa in World History to 1600 (Figure 35). Additionally, while the curriculum presents strong knowledge-building in Religion texts, only two texts discuss non-Judeo-Christian topics.

A final pattern of weakness presents as a lack of domain coverage within a grade band. A visual scan of the Knowledge Map™ reveals this pattern as empty columns beneath individual grade levels. For example, reviewers classify U.S. Geography (Figure 31) as a weak domain partly because grades 7, 8, 9, 10, and 12 contain no texts on any topic in the domain. Such absence may reflect curricular progression decisions and other factors, but significant gaps may still be worth examining.



Figure 23. Heat map analysis of the Global Literature knowledge domain in Grades 6-12.

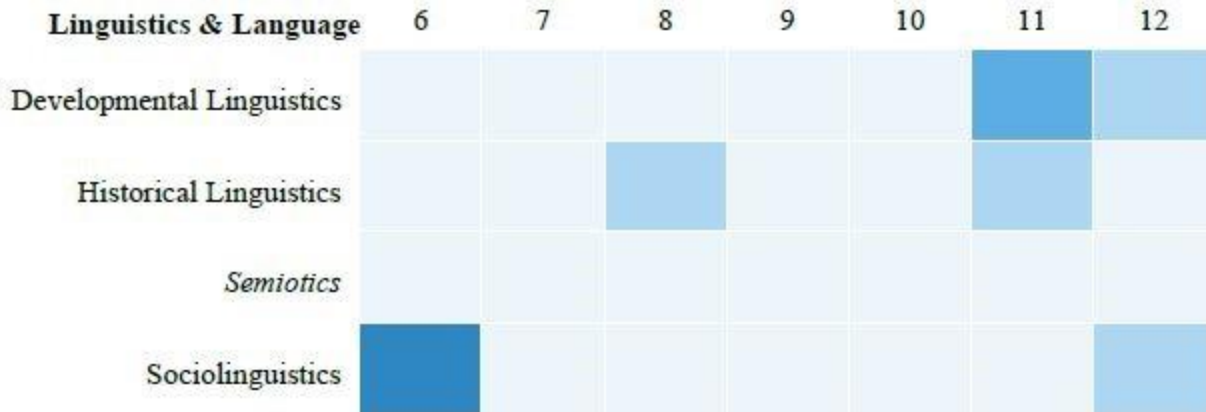


Figure 24. Heat map analysis of the Linguistics & Language knowledge domain in Grades 6-12.

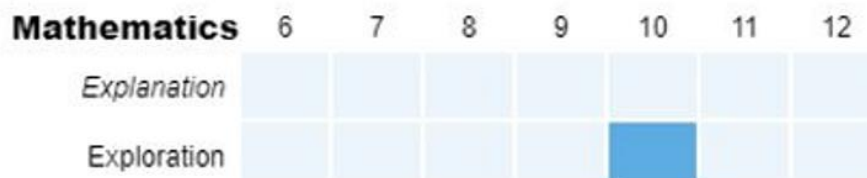


Figure 25. Heat map analysis of the Mathematics knowledge domain in Grades 6-12.

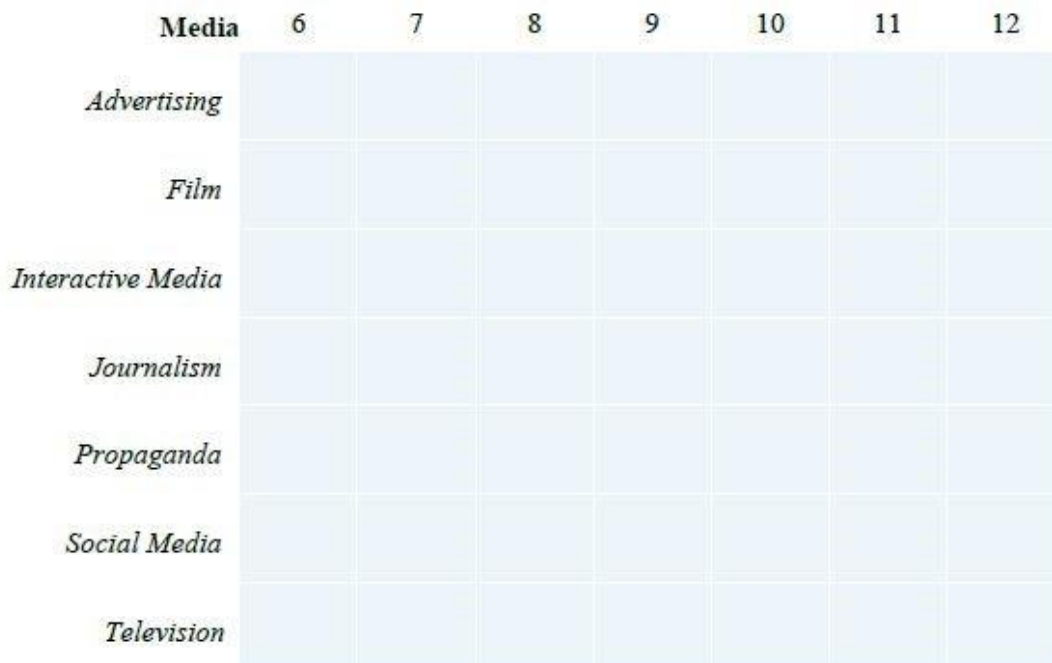


Figure 26. Heat map analysis of the Media knowledge domain in Grades 6-12.

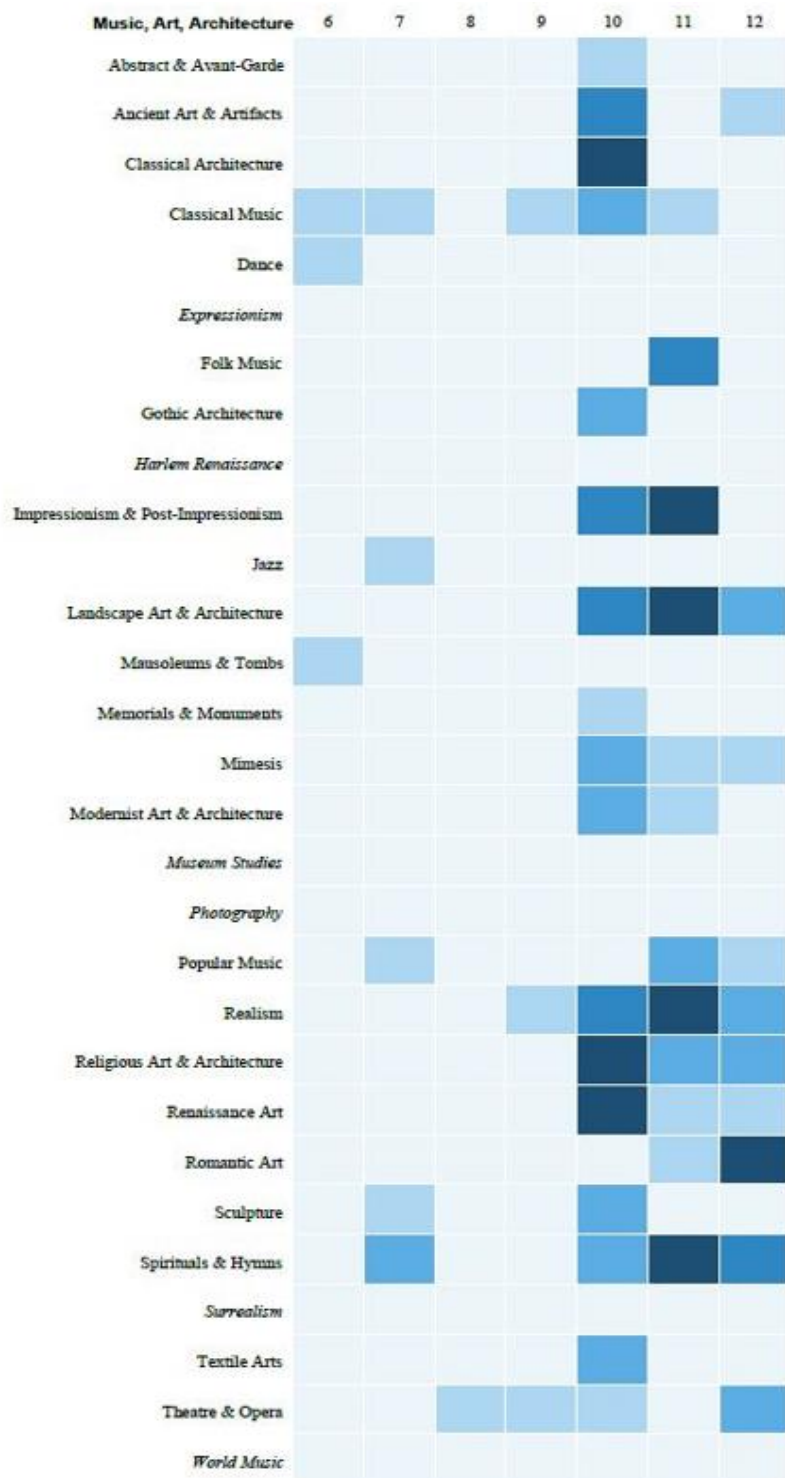


Figure 27. Heat map analysis of the Music, Art, Architecture knowledge domain in Grades 6-12.

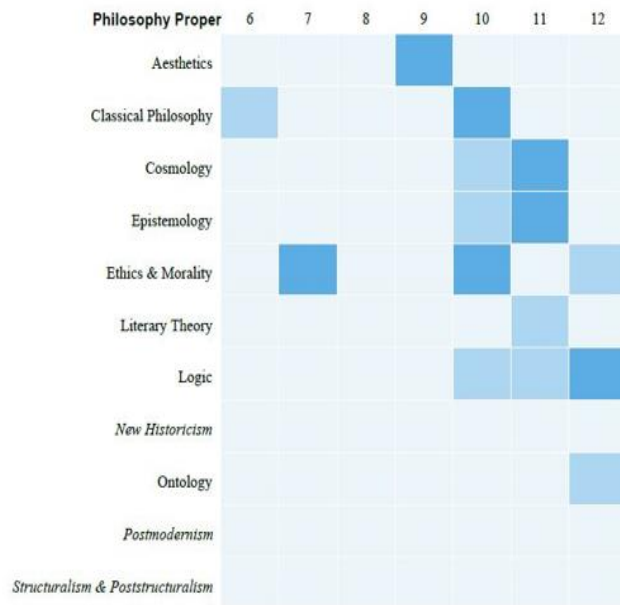


Figure 28. Heat map analysis of the Philosophy Proper knowledge domain in Grades 6-12.



Figure 29. Heat map analysis of the Physical Sciences knowledge domain in Grades 6-12.

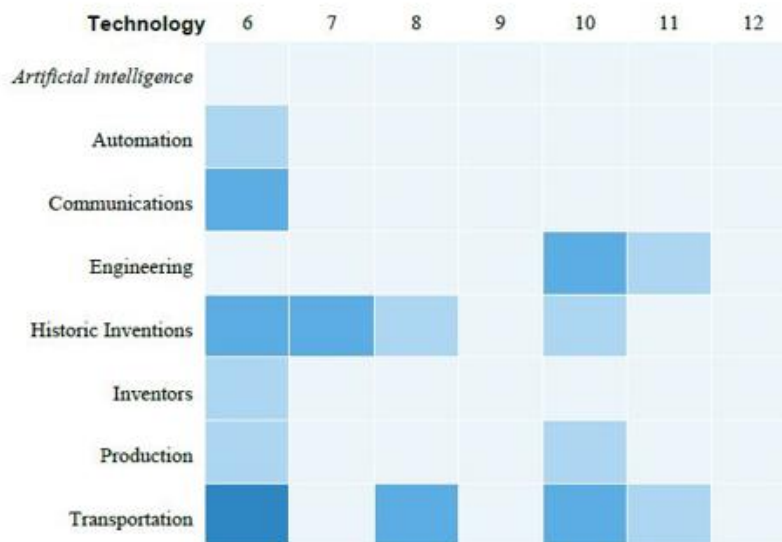


Figure 30. Heat map analysis of the Technology knowledge domain in Grades 6-12.

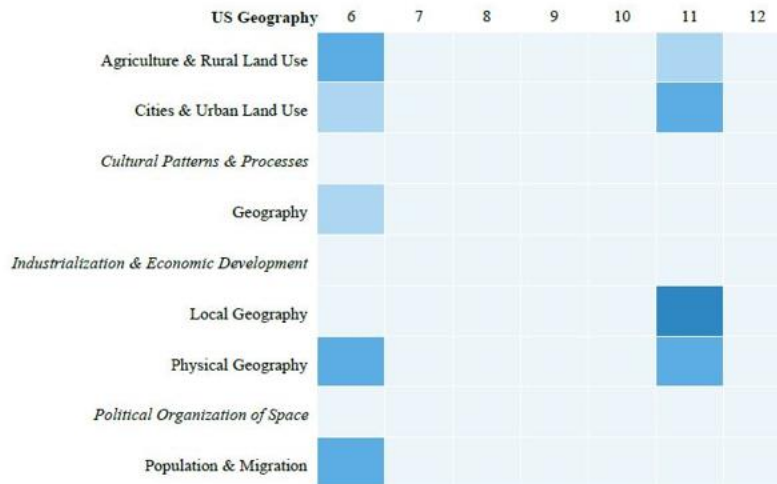


Figure 31. Heat map analysis of the U.S. Geography knowledge domain in Grades 6-12.

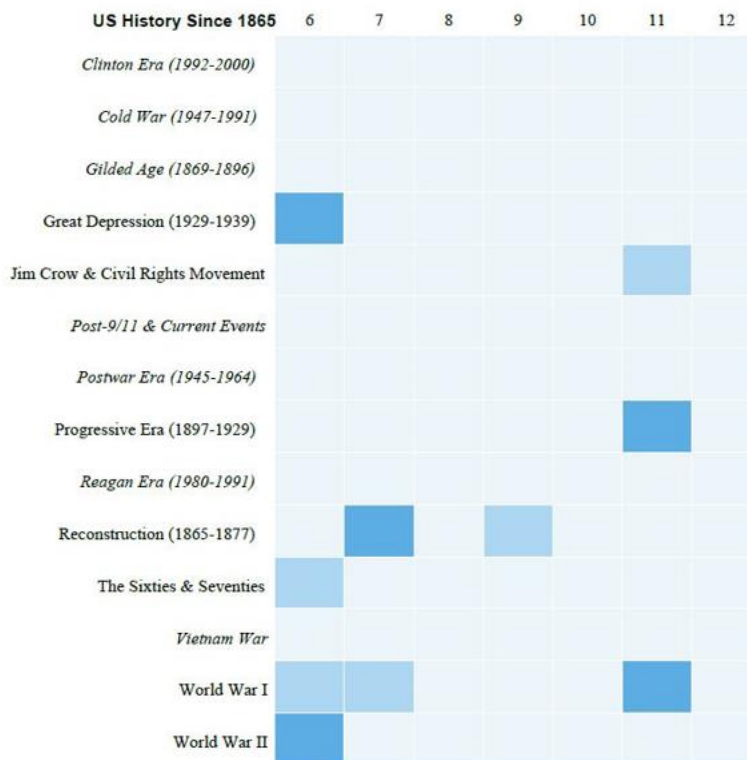


Figure 32. Heat map analysis of the US History Since 1865 knowledge domain in Grades 6-12.

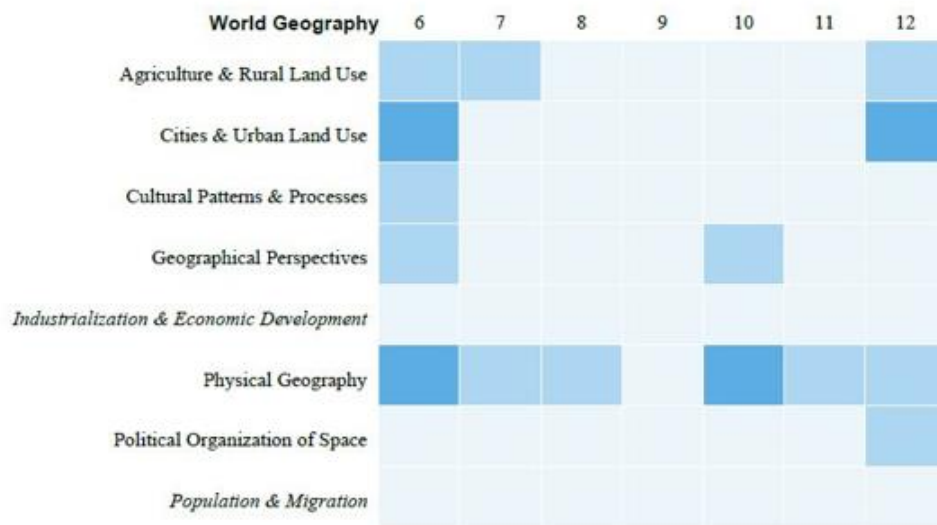


Figure 33. Heat map analysis of the World Geography knowledge domain in Grades 6-12.



Figure 34. Heat map analysis of World History Since 1600 knowledge domain in Grades 6-12.

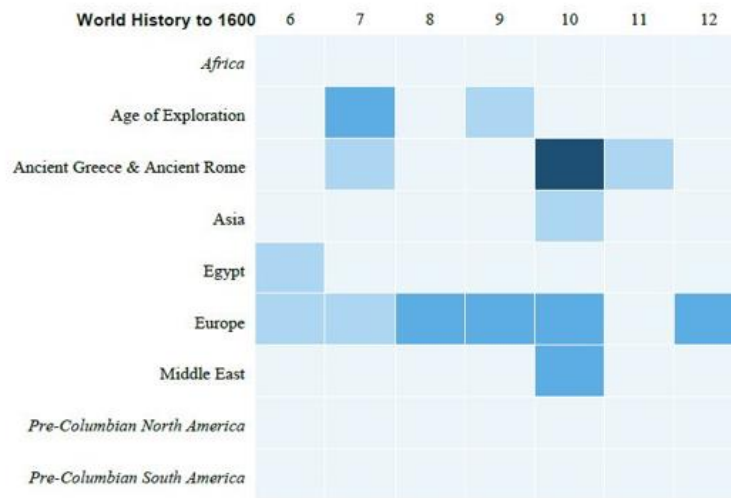


Figure 35. Heat map analysis of World History to 1600 knowledge domain in Grades 6-12.

LEARN MORE

This report is one of twelve ELA Knowledge Map™ reports released in Winter 2022 by the Johns Hopkins Institute for Education Policy. The release of these reports was accompanied by a Findings Summary, outlining the overarching themes across all ELA curricula analyzed. View the other ELA Knowledge Map™ reports and learn more about the importance of high-quality curriculum at edpolicy.education.jhu.edu.

About the Institute

The [Johns Hopkins University Institute for Education Policy](https://edpolicy.education.jhu.edu) is dedicated to integrating research, policy, and practice to achieve educational excellence for all of America's students. Specifically, we connect research to the policies and practices that will ensure all children have access to intellectually challenging curricula, highly-effective educators, and school models that meet students' diverse needs. By delivering the strongest evidence to the policymakers who set the course and the practitioners who teach and lead, we hope to serve the American children who enter our classrooms every day.

About Abeka Curriculum

The mission of [Abeka](https://www.abeka.com) is to support and equip students, teachers, and parents by providing amazing Pre-K through Grade 12 academic resources based upon biblical values.

ⁱ Reid Smith et al., "[The Role of Background Knowledge in Reading Comprehension: A Critical Review](#)," *Reading Psychology* 42, no. 3 (April 3, 2021): 214–40). Sonia Q. Cabell and Hyejin Hwang, "Building Content Knowledge to Boost Comprehension in the Primary Grades," *Reading Research Quarterly* 55, no. S1 (2020): S99–107, <https://ila.onlinelibrary.wiley.com/doi/full/10.1002/rrq.338> and also Kathryn S. McCarthy and Danielle S. McNamara, "The Multidimensional Knowledge in Text Comprehension Framework," *Educational Psychologist* 56, no. 3 (July 3, 2021): 196–214, <https://doi.org/10.1080/00461520.2021.1872379>.

ⁱⁱ "Standards aligned" generally refers to the Common Core State Standards.



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