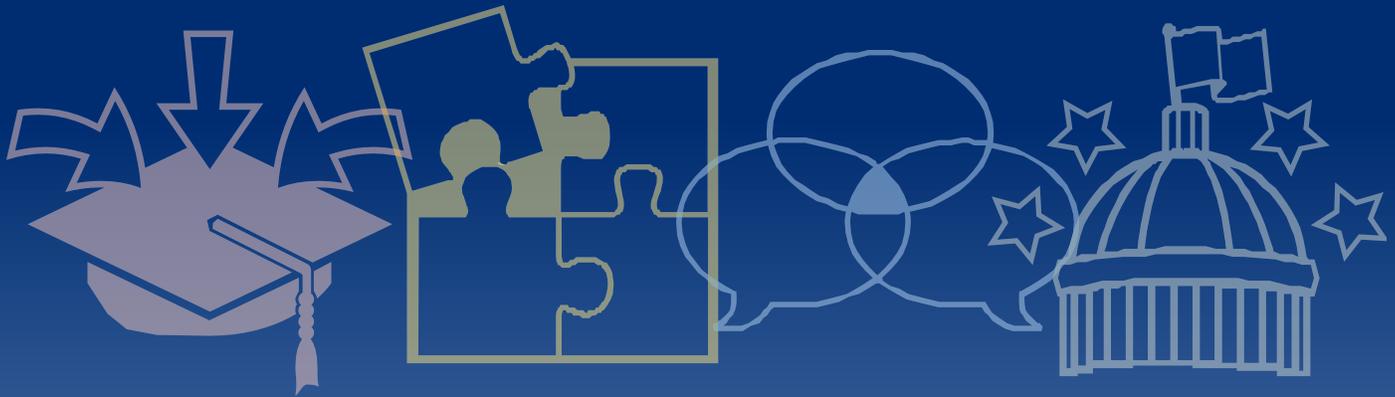




JOHNS HOPKINS
SCHOOL of EDUCATION

Institute for Education Policy



Social Studies Knowledge Map™



A unique analytic resource enabling policymakers, school leaders, and parents to better understand the strengths and weaknesses of the Woodson Center Black History Lessons.



The Johns Hopkins Institute for Education Policy designed the Knowledge Map™ as a unique analysis of the knowledge build provided by different curricula. Why? The academic achievement gap between low- and high-income students is, in large part, a knowledge gap. Research indicates that many pluralistic democracies require all schools to teach a standard body of knowledgeⁱ a comprehensive, content-rich curriculum is a signature feature of high-performing systems.ⁱⁱ

Despite the research record, a majority of the United States' curricula sideline the acquisition of deep content, and instead, focus on the process of honing abstract skills. Furthermore, we know from the political science literature that students need to practice the skill of civil disagreementⁱⁱⁱ - a routine that is unfortunately rare in the United States' classrooms.^{iv} A well-designed social studies curriculum can encourage both knowledge building and the habit of civil disagreement.

The Institute's Social Studies Knowledge Map™ allows us to analyze a K-12 social studies curriculum in terms of the knowledge it helps students learn and apply. We conduct this analysis by "mapping" the knowledge domains that are implicit in the selection of the sources and texts that are discussed. This mapping enables policymakers to see not only the domains of knowledge that are opened up in the curriculum – and others that are missed – but also to what degree, and over what grade span. We also assess whether a given unit includes more than one perspective, and whether the teacher-facing materials encourage deliberation and disagreement. This is a one-of-a-kind instrument.

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.
- The Institute evaluates each unit for its presentation of distinctive viewpoints and for the presence of teacher-facing instructions that support a deliberative classroom (referred to as 'Open Classroom Climate').
- [View a sample report of a de-identified district's K-12 curriculum.](#)

PROJECT DESCRIPTION

Funded by the Woodson Center and centered around Woodson Center Principles, the Woodson Center Black History Lessons are a series of open-access lessons on Black achievement, historical events, and contemporary scholars. Each lesson includes lesson plans and a presentation for the teacher along with primary and secondary source materials in various formats for the students. At the time of the Institute's review, the project included 14 lessons; however, it continues to undergo further development.

The Institute reviewed the student-facing materials that comprise the Woodson Center Black History Lessons online social studies project. Each resource, both text and non-text, was evaluated individually, in the context of its unit, and in the curriculum's cumulative knowledge-building capabilities.

It is important to note that Woodson Center Black History Lessons were not released as a standard social studies curriculum, but as an online project or set of materials. This context should be considered when discussing the findings of the Knowledge Map™ analysis.

The Woodson Center Black History Lessons achieve high-quality scores for nearly all its resources. This suggests that the materials used in each unit provide substantial information, offer the possibility of high impact for students, and contain a multitude of topics. The project also scores extremely well on the Institute’s measure of Open Classroom Climate, indicating that it helps instructors encourage critical thinking and healthy discussion in the classroom. In addition, the project earns even higher ratings for its incorporation of multiple perspectives. This indicates the project purposefully addresses both tragedies and triumphs from America’s past.

The project scores strongly for topical coverage in the Civics & Government domain, although this is the only domain to achieve strong coverage. Although a full breadth of topical coverage would not make sense when measured against the project’s aims, instructors using the project should note where gaps occur in order to supplement them with additional, relevant materials.

The coherency, or degree to which the materials within a unit work together to build knowledge, varied from unit to unit. Units with stronger coherence tend to center around historical time periods as compared with units that focus on individuals.

INSTITUTE RECOMMENDATIONS

The Woodson Center Black History Lessons provide students with high-quality texts that represent multiple perspectives, as well as opportunities for discussion and inquiry. The Knowledge Map™ analysis highlights crucial areas of knowledge building and assesses associated strengths and weaknesses. Therefore, the Institute recommends that the district:

- The design of most units is well executed, with secondary materials effectively chosen to support the deepening and broadening of targeted content. However, teachers need to incorporate the project’s materials so they fit naturally and appropriately into their curriculum. To support teachers, the project should consider suggesting appropriate time periods in history for when to incorporate materials. This will ensure that students are simultaneously learning the appropriate background knowledge, and that the project’s materials build and strengthen on this.
- As the project continues to develop new lessons, consider strengthening topical coverage of focused domains. For example, within the American History domain, topics such as Manifest Destiny or the Cold War could be explored. In addition, when focusing on an individual, providing the historical context of the individual’s contributions will help ground it topically and among state standards.

The first section of the report addresses the specific findings of the heat map exercise, followed by quality and coherence findings.

Woodson Center Black History Lessons KNOWLEDGE/HEAT MAPS:

One of the Institute’s critical gateway questions addresses the level of exposure students receive to each important domain of knowledge and to the topic within those domains. Each heat map expresses the findings visually using a color-coding scheme, as shown in Figure 1 below. 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 results for each of the eleven topical domains in Grades K-5 appear in the figures below.

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 is age-dependent; a topic is tagged if the average elementary student could speak about it for thirty seconds, a middle school student for one minute, and a high school student for two minutes.



Figure 1. The color-coded rating scheme used in heat maps, where lighter blue indicates fewer texts and darker blue indicates more texts.

Strong Knowledge-Building Domains

The project presents robust knowledge building in several domains and additional topics, shown below alphabetically when similarly rated. Strong knowledge-building domains appear in the heat maps as dark blue, indicating that many texts address the topic (for instance, the heat map categories of 8+ Texts or 5-7 Texts).

One domain, Civics & Government (Figure 2), scored strongly for topical coverage. Students are presented three or more texts in six of the nine topics within this domain. Only one topic, Comparative Politics & Types of Government, is not covered.

Additional knowledge domains exhibit patterns of strength in specific topics. The Geography (Figure 5) domain has moderate coverage as a whole, yet the topic of Place & Regions has over eight texts.

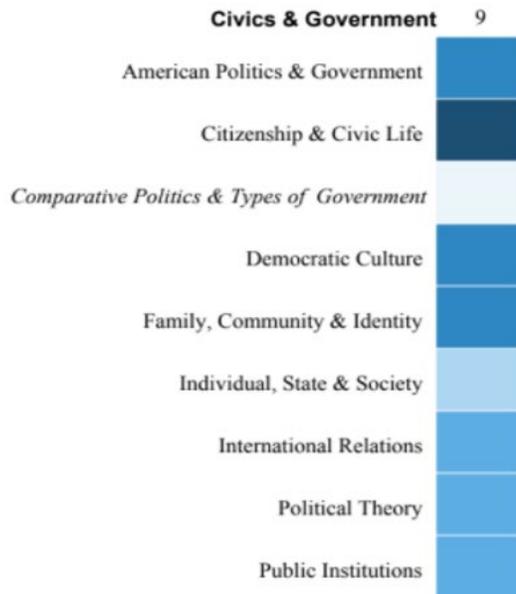


Figure 2. Heat map analysis of the *Civics & Government* knowledge domain in the Woodson Center Black History Lessons.

Moderate Knowledge-Building Domains

The project presents several moderate knowledge-building domains and topics. Moderate knowledge-building domains have 1 – 4 texts in almost all topics or have over 5 texts in nearly half of the topics.

The domains that were rated moderately were Economics (Figure 3), Equity & Inclusion (Figure 4), Geography (Figure 5), Media (Figure 6), Sociology (Figure 7), US History Since 1865 (Figure 8), and US History to 1865 (Figure 9).

The Economics domain (Figure 3) is an example of a moderate knowledge build in which almost all topics have 1 – 4 texts. The Equity & Inclusion (Figure 4) is an example of a moderate knowledge building in which half of the topics within the domain have 5 or more texts in nearly half of the topics.

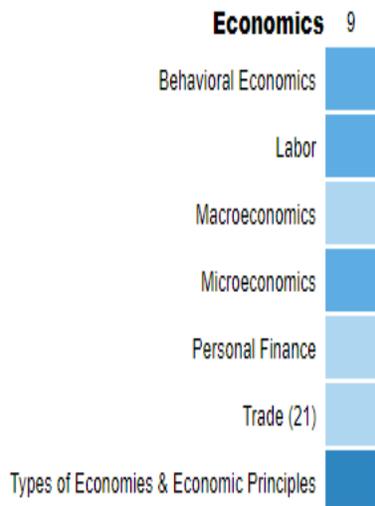


Figure 3. Heat map analysis of the **Economics** knowledge domain in the Woodson Center Black History Lessons.

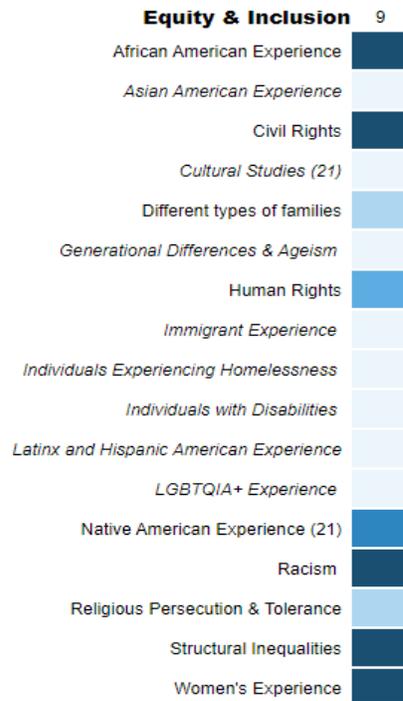


Figure 4. Heat map analysis of the **Equity & Inclusion** knowledge domain in the Woodson Center Black History Lessons.

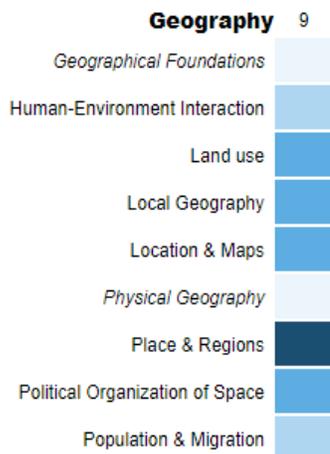


Figure 5. Heat map analysis of the **Geography** knowledge domain in the Woodson Center Black History Lessons.



Figure 6. Heat map analysis of the **Media** knowledge domain in the Woodson Center Black History Lessons.

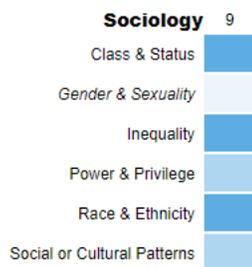


Figure 7. Heat map analysis of the *Sociology* knowledge domain in the Woodson Center Black History Lessons.

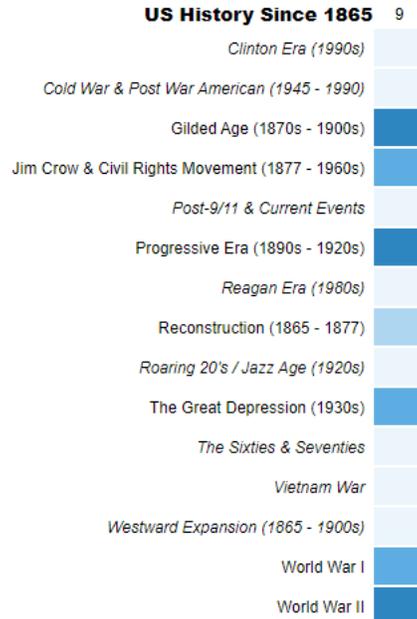


Figure 8. Heat map analysis of the *US History Since 1865* knowledge domain in the Woodson Center Black History Lessons.

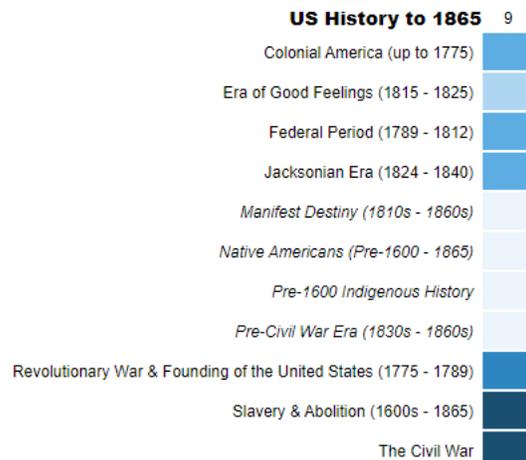


Figure 9. Heat map analysis of the *US History to 1865* knowledge domain in the Woodson Center Black History Lessons.

Minimal Knowledge-Building Domains

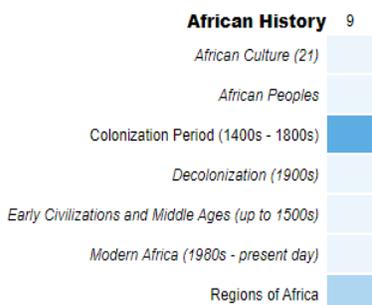
The project presents minimal knowledge building in several knowledge domains and topics. Minimal knowledge-building domains appear in heat maps as primarily light blue or gray, indicating that one or no texts address the topics. It is important to note that heat maps

should be considered in the context of the evaluated system – in a specialized course such as Woodson Center Black History Lessons, absences often reflect the scope of the project. However, gaps may be worth examining in order to identify potential areas of further knowledge reinforcement.

The domains that rated weakly were African History (Figure 10), Anthropology (Figure 11), European History (Figure 12), Global Themes (Figure 13), Philosophy (Figure 14), Psychology (Figure 15), and Religion (Figure 16).

Heat Maps indicate strength and weakness of particular topics. For example, Global Themes (Figure 13) is a domain with minimal overall topical coverage, yet there are several topics within it, including Historical Thinking/Concepts, Political Movements, and Social Movements, that all have a moderate number of texts present. For U.S. History Since 1865 (Figure 8), is a moderate domain in terms of overall topical coverage, yet there is no coverage of Westward Expansion.

Finally, there are several domains that did not contain any texts for the topics. These domains include Ancient Civilizations, Asian History, Classical History, Law & Criminology, and Mesoamerican, South American, & Caribbean History.



*Figure 10. Heat map analysis of the **African History** knowledge domain in the Woodson Center Black History Lessons.*



*Figure 11. Heat map analysis of the **Anthropology** knowledge domain in the Woodson Center Black History Lessons.*



Figure 12. Heat map analysis of the **European History** knowledge domain in the Woodson Center Black History Lessons.



Figure 13. Heat map of the **Global Themes** knowledge domain in the Woodson Center Black History Lessons.



Figure 14. Heat map analysis of the **Philosophy** knowledge domain in the Woodson Center Black History Lessons.

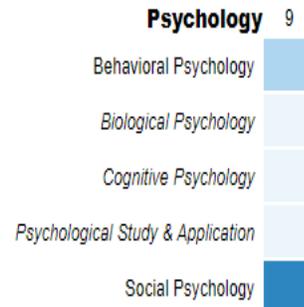


Figure 15. Heat map analysis of the **Psychology** knowledge domain in the Woodson Center Black History Lessons.

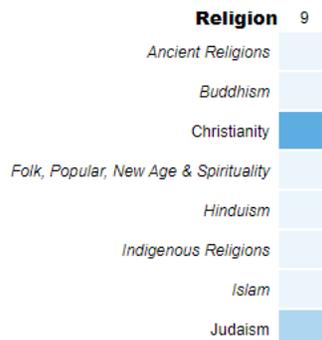


Figure 16. Heat map analysis of the **Religion** domain in the Woodson Center Black History Lessons.

Woodson Center Black History Lessons

QUALITY & COHERENCE

As mentioned previously, the Institute’s analysis includes tagging each text for the knowledge domains, topics, and subtopics that it reinforces. The evaluation also rates each individual text for quality according to the rubric below. For each item, the Institute applies a tagging system that rates how well supplemental materials reinforce the knowledge found in the anchor text.

Quality and coherence findings vary and are not linked to each other. A unit may score highly on overall quality, shown as a percentage, but have a low coherence rating in terms of how well the supplemental texts reinforce the knowledge built in the anchor text. In other words, units with high overall quality scores may only weakly reinforce central themes through the inclusion of additional materials, and vice versa.

The quality and coherence review also includes an evaluation that measures the presence or absence of two factors: multiple perspectives on a given subject and encouragement to create a deliberative classroom.

Rubrics for Quality

The Institute applies three rubrics for analysis of individual text quality – a rubric for written primary sources, visual primary sources, and all secondary sources.

Primary Sources: Written, Spoken, and Verbal

- **Emotion:** The degree to which the source is memorable due to its impact upon the reader.
- **Language:** The degree to which the source is an example of outstanding or representative writing.
- **Universal Questions:** The degree to which the source addresses important aspects of the human condition or the relevant historical context.
- **Content Knowledge:** The degree to which the source contributes to students’ background knowledge of the tagged domains and topics.
- **Prominence:** The degree to which the source reflects its historical period or provides important context to the related events or documents.

Primary Sources: Visual, Artistic, or Non-Verbal

- **Emotion:** The degree to which the source is memorable due to its impact upon the reader.
- **Authenticity:** The degree to which the source reflects authentic interpretive experience or visual representation of the historical context.

- **Universal Questions:** The degree to which the source addresses important aspects of the human condition or the relevant historical context.
- **Content Knowledge:** The degree to which the source contributes to students' background knowledge about the tagged domains and topics.
- **Prominence:** The degree to which the source reflects its historical period or provides important context to the related events or documents.

Secondary Sources: Written, Spoken, and Visual

- **Accuracy:** The degree to which the source is empirically accurate.
- **Language/Artistic Technique:** The degree to which the source is an example of outstanding writing or artistic expression.
- **Source:** The quality and trustworthiness of the source.
- **Content Knowledge:** The degree to which the source contributes to students' background knowledge about the tagged domains and topics.

Unit Quality and Coherence Analysis

The Unit Coherence Map utilizes a spoke visual, where the unit name appears in the central square and the surrounding squares represent the materials within that unit. The percent shown on each outer square represents the percentage of shared topics weighted against the total number of shared topics within a unit. This means the more a topic is shared within a unit, the higher the percentage for each text that includes that topic; likewise, less-shared topics within a unit will result in a lower percentage for each text. The proximity of each spoke to the central unit square visually represents this relationship. In addition, there is an overall unit Coherence Score in the upper right corner in blue. The Coherence Score averages the coherency percentages of all texts within a given unit but also includes a .5% penalty for each domain that is not shared in any texts.

The quality and coherence findings for the project follow in the section below. This report highlights the highest- and lowest-quality units present in the course, and provides a discussion of knowledge reinforcement within those units. The caption below each graph provides an overall quality score for the unit. The Institute considers units with a text quality score of 75% or above to be high quality. A unit is acceptable as low as 66%, and any quality score below 66% denotes poor quality.

Woodson Center Black History Lessons QUALITY & COHERENCE FINDINGS:

The project receives an overall quality score of 87.45%, placing it in the high-quality band.

Highest-Rated Unit

Unit 3, *Jessie Owens & The Berlin Olympics*, is the highest-quality unit within the project, with an average text quality score of 96.08%. All of the texts within this unit share the topics of the African-American Experience of the Equity and Inclusion domain. *Highlights of the 1936 Olympics* has the lowest coherency score (40%) because it also covers the topic of The Great Depression which is only shared with one other resource, *More Than Gold: Jesse Owens and the 1936 Olympics*.

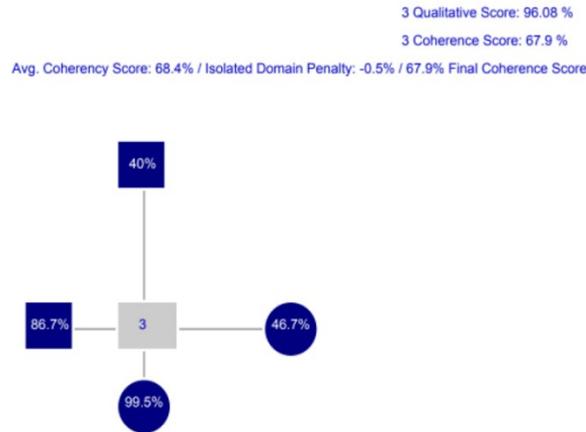


Figure 17. Coherence map of Woodson Center Black History Lessons Unit 3. The average unit score for text quality is 96.08%.

Lowest-Rated Unit

Unit 2, *Bessie Coleman*, is the lowest-quality unit at this grade level, with an average text quality score of 82.17%. Despite having the lowest text quality score, the unit still falls within the Institute's high-quality range, with only two texts out of ten falling below the minimum 66% threshold. The texts with the higher coherency scores explore topics of the Women's Experience and the African-American Experience of the Equity and Inclusion domain, Change Makers of the Global Themes domain, and the Gilded Age of the American History domain. The text *Air Crash Averted* has the lowest coherency score because it only shares one topic, Women's Experience, with the other texts.

2 Qualitative Score: 82.17 %
2 Coherence Score: 67.2 %
Avg. Coherency Score: 68.2% / Isolated Domain Penalty: -1% / 67.2% Final Coherence Score

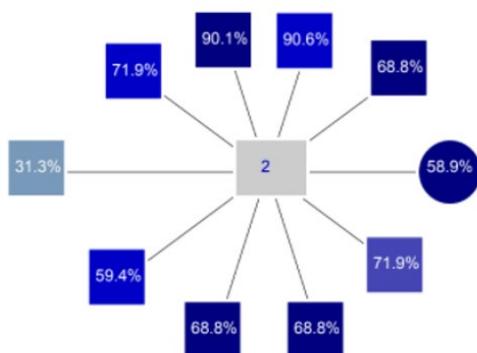


Figure 18. Coherence map of Woodson Center Black History Lessons Unit 2. The average unit score for text quality is 82.17%.

UNIT ANALYSIS OF OPEN CLASSROOM CLIMATE & MULTIPLE PERSPECTIVES

The Social Studies Knowledge Map™ also includes a unit-level assessment of the inclusion of multiple perspectives and the intended open classroom climate. The multiple perspectives score measures the extent to which the unit provides a holistic approach to its broader context by representing a range of voices and viewpoints.

The open classroom climate score analyzes teacher-facing materials to determine the extent to which instructors are encouraged to include discussion and student inquiries. It also evaluates whether appropriate space is left for students to form their own opinions on controversial or contested issues. The bar graphs below provide the scores for each unit, and include an average for the entire grade on both measures. Scores in both categories range from 1 to 3; an average score of 2.5 or above is considered high, while a score between 2 and 2.5 is considered acceptable.

The majority of the units had a score of 3 in both categories, with a few scoring a 2 in one or both categories, and no units ever scoring a 1 in either category. The strongest units are Units 1-8 (Walter E. Williams, Bessie Coleman, Jessie Owens & The Berlin Olympics, Tulsa: Terror & Triumph, Paul Cuffe, 54th Massachusetts, Crispus Attucks, and Alice Coachman), all achieving perfect scores, as well as Unit 11 (Booker T. Washington and the Rosenwald Schools) and Unit 13 (Elijah McCoy). Several of the later units are where discrepancies begin to appear, most notably with Unit 10 (Benjamin Banneker) and Unit 14 (Robert Woodson) which both received the lowest combined scores.

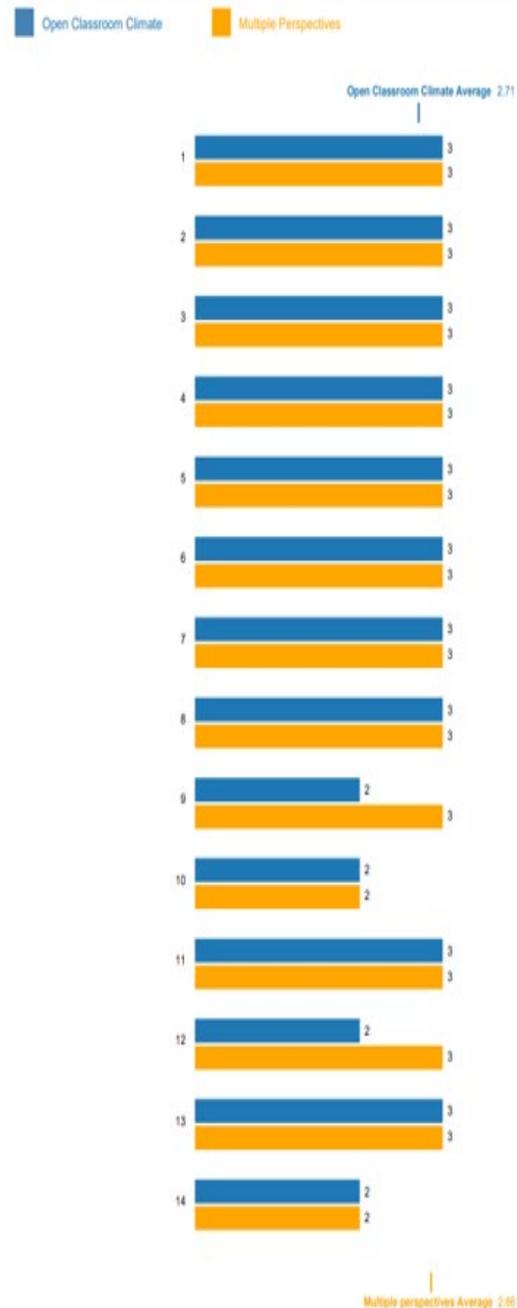


Figure 19. Visual representation of Multiple Perspectives and Open Classroom Climate scores.

The average score for Open Classroom Climate was a 2.71, and the average score for Multiple Perspectives was a 2.86. Both of these are enough to be considered high-end results, and this indicates that the Woodson Center Black History Lessons represent a wide range of thought-provoking materials and perspectives that students are able to draw knowledge from, and that the course grants students enough room to analyze the content they are being taught, form their own conclusions, and debate and discuss these conclusions with one another.

LEARN MORE

About the Institute

The [Johns Hopkins University Institute for Education Policy](#) 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 the Woodson Center

[The Woodson Center](#) is a 501 (c)(3) nonprofit, founded in 1981 by Robert L. Woodson, Sr. to empower community-based leaders to promote solutions that reduce crime and violence, restore families, revitalize underserved communities, and assist in the creation of economic enterprise.

The Woodson Center has worked in public and private schools and after school programs to reduce violence and improve performance.

ⁱ Ashley Berner, “Funding Schools,” in *Balancing Freedom, Autonomy, and Accountability in Education*, ed. Charles Glenn and Jan De Groof, vol. 1 (Tilburg: Wolf Legal Publishers, 2012), 115–29. E. D Hirsch, *The Knowledge Deficit: Closing the Shocking Education Gap for American Children* (Boston: Houghton Mifflin, 2016).

ⁱⁱ Common Core, “Why We’re behind: What Top Nations Teach Their Students but We Don’t.” (Washington, D.C.: Common Core, 2009). Amy von Heyking, “Alberta, Canada: How Curriculum and Assessments Work in a Plural School System” (Baltimore, MD: Johns Hopkins Institute for Education Policy, June 2019), <https://jscholarship.library.jhu.edu/bitstream/handle/1774.2/62962/alberta-brief.pdf?sequence=1&isAllowed=y>

ⁱⁱⁱ David E Campbell, “Voice in the Classroom: How an Open Classroom Climate Fosters Political Engagement Among Adolescents,” *Political Behavior* 30, no. 4 (2008): 437–54.

^{iv} Robert Kunzman, *Grappling with the Good: Talking about Religion and Morality in Public Schools* (Albany: State University of New York Press, 2006); Katherine G Simon, *Moral Questions in the Classroom: How to Get Kids to Think Deeply about Real Life and Their Schoolwork* (New Haven: Yale University Press, 2001).



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