

**Content-Rich
Literacy Instruction:
Making Informational
Text Relevant for
Secondary Students**

Jigsaw Activity

Step #1: Read your assigned article. You may use the symbols below to annotate your text and write marginal notes on sticky notes or on the article:



Important idea(s)

Underlining

Key word(s) or detail(s)



Unfamiliar concept(s) or word(s)



Interesting or agreeable detail



Question you may have



Connection(s) I made with the text

You may chunk the text by circling or highlighting subtitles/subheadings.

You may number the paragraphs for easy reference.

You may ask yourself about the central idea in each paragraph or section and create a hashtag for each one.



Step #2: Complete the 5Ws/H to create a GIST summary statement for your article. This will help prepare you to share information from the article with your tablemates that had a different article.

Who:

What:

Where:

When:

Why:

How:

Write a 20-word GIST.

Step #3: Share your 20-word GIST summary statement with your tablemates.

How Knowledge

To help students master nonfiction reading, we must design instruction that builds their background knowledge.

Doug Lemov

Want to become a doctor? An economist? An engineer? You'd better be prepared to read articles, primary source documents, research studies, and complex essays. The same is true for shorter-term goals, like scoring well on the new SAT. In other words, success in scholastic and professional endeavors requires the ability to learn from the literature of a discipline.

Clearly, it's important to ensure that all students can read and master nonfiction texts—but it's also challenging. Nonfiction doesn't follow the "problem, rising action, resolution" conventions of fiction that students are familiar with from novels, movies, and TV sitcoms. With the exception of memoir and biography, nonfiction rarely tries to win the reader's interest with an engaging narrative voice. The tone is more often something like, "I've got some information here; stay with me if you can."

But the biggest challenge—and the most important—is this: Recent research shows that reading comprehension, deep thinking, and even creativity all rely heavily on prior knowledge. Although you can find a thousand articles

claiming that knowledge is essentially irrelevant nowadays—that mere facts are not worth teaching in the age of Google, when anyone can look up anything at any time—in fact, cognitive scientists now mostly believe that this apparently tidy logic is wrong (Allington & Cunningham, 2006; Deans for Impact, 2015; Willingham, 2006). The brain's active processing capacity is finite, so unless knowledge is encoded in long-term memory, having to search for it actually crowds out other forms of cognition. Knowing things helps you think and read successfully.

At the same time, reading is a primary way to come to know things. Every time we read and comprehend a text, we add to the knowledge that helps us make sense of further texts.

In other words, when it comes to reading, knowledge is both the chicken and the egg. Our students' ability to read nonfiction texts depends on their prior knowledge, and the act of reading nonfiction adds to their knowledge base and helps them learn more from subsequent reading. As teachers, we need to find ways to weave prior knowledge into our students' reading of nonfiction throughout the process of engaging them with texts.

Powers Reading

Why Knowledge Counts More Than Skill

Prior knowledge affects comprehension—in many cases, far more than generic “reading skills” do. To see what I mean, consider this short passage about a baseball game:

Rick Porcello has been the anchor of the Red Sox rotation all year, and tonight, he showed why. He was perfect through the first 11 outs. Then he hit Manny Machado. Porcello shouted “I’m not trying to hit you, Bro,” to remind the slugger that it would make no sense to have plunked him with a perfect game still on the table, but Machado took apparent issue. Then, after he scored on Mark Trumbo’s double, he stared down Porcello. So Porcello proceeded to strike Machado out on three pitches in the sixth, and then fanned him on four in the ninth.

If you’re a baseball fan, you probably gleaned a great deal of information from this passage. For example, when the article describes Rick Porcello as the “anchor of the Red Sox rotation,” your knowledge of the baseball term *rotation* enabled you to understand that he was an excellent starting pitcher (rather than a relief pitcher or a closer). When it says “he was perfect through 11 outs,” you knew



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Prior knowledge affects comprehension—in many cases, far more than generic “reading skills” do.

this didn't mean that he was flawless in the generic sense, but that he had not allowed a base runner until he faced the third batter, Machado, in the fourth inning.

Your prior knowledge also enabled you to understand the central conflict in the passage: When Porcello “hit” Machado, it was with a pitched ball, which is painful and can be either an accident or a deliberate provocation. Because you knew that being hit by a pitch sends a batter to first base, you weren't surprised to read that Machado later scored. You could envision him pausing after crossing home plate and staring at Porcello, thus responding to the pitcher's perceived provocation with one of his own. In other words, you understood the plot; you sensed the spiraling tension between the two players. And you knew how that tension was resolved—later in the game, Porcello made a statement when he struck Machado out twice (“fanned” him).

As you read the article and made these inferences and a dozen others, you understood the text far better than a reader who knew nothing about baseball would have. Your understanding was not the result of some generic “inferencing skill”; it was the result of your prior knowledge. If I gave this passage to a group of literacy experts in the United Kingdom and to some of my daughter's 3rd grade classmates here in the United States, my daughter's classmates would understand it far better.

But you didn't just understand what you read better than a reader with no prior baseball knowledge would have, *you also learned more new things*. The gap between your comprehension and a less baseball-savvy reader's would likely be bigger next time around because your knowledge base grew faster. You were learning things that a reader who was just trying to connect the basic dots would not: Porcello is having a great year; Machado has a fiery temperament; big leaguers talk casually during the game, Bro. The next time you and your counterpart read a passage, the gap in understanding would be even bigger.

We call this concept—the rate at which readers are expanding their background knowledge as a result of what they are reading—*absorption rate*. Although this is an exaggerated example (baseball has an unusually distinctive vocabulary and knowledge base), some version of it occurs every time a reader encounters a text.

How can teachers ensure a high absorption rate that feeds students' ability to think deeply? How can they teach nonfiction successfully and engagingly so that students are confident reading it, not just in the classroom but also in their personal endeavors? The first step may be to reconsider how and when we teach nonfiction.

Enrich Understanding with Embedded Nonfiction

Many language arts teachers approach nonfiction structurally. They perceive

it as a genre and strive to help their students develop an overarching structural knowledge of that genre. They reason that, if students understand how information is presented, they will understand what they read.

Such teaching often looks like this: An article is chosen and introduced and analyzed formalistically. How is the information organized? How do text features like subheads and captions function? Where and how is evidence cited? In fact, many English teachers make a unit out of such lessons. I did this myself as a teacher. In retrospect, I must admit that the results were often brutal.

That's because this approach puts students in situations where they're disconnected from the texts they read. If students are reading a text because it's a fine example of how subheads work, they're unlikely to have any emotional or intellectual connection to it.

For an alternative approach, consider what my colleague Colleen Driggs did recently. She was reading the novel *Lily's Crossing* by Patricia Reilly Giff (Delacorte, 2001) with her 5th graders. The book is set in New York during World War II and tells the story of Lily, whose father is away fighting in Europe. One detail in the book is the presence of rationing: staples like butter and oil are in short supply; people stand in lines and go without; rationed items can only be purchased on specific days.

Rationing is something most 5th graders today know little about. So



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Colleen brought in a nonfiction article on rationing—how it worked, what it was like, how people reacted. About four chapters into *Lily’s Crossing*, Colleen had her students read and discuss the article. She focused on the article’s content, not its use of sub-heads or other structural elements. Here’s what happened:

- The students were engaged and interested in an otherwise dry topic. Because they knew and identified with a fictional character who was experiencing rationing, they had some context and emotional connection.

- They picked up all kinds of new details and questions—what was “fuel oil” anyway, and why was it important in the 1940s?

- Because they now understood more about the context of the novel, their absorption of it also increased—doubly so when Colleen replaced stock questions, such as “What is motivating Lily in this scene?” with knowledge-based questions, such as “How is Lily’s experience with rationing like and unlike the experiences described in the article?”

Through this strategy, Colleen also created an implicit narrative for her students about why someone would read nonfiction—people use it to find out about things that interest them. As adults, we would never read a nonfiction article because we felt it was an outstanding example of, say, presenting events in chronological order. We’re

much more likely to read an article because something else we were reading on a related topic piqued our interest.

Based on this experience, Colleen included nonfiction articles—more than half a dozen of them—throughout her class’s study of *Lily’s Crossing*. Students read articles about victory gardens and blackout curtains. They read about spies and about the United States’ decision to enter the war. They read about the Luftwaffe bombing of London so they could understand why people were so fearful of air raids. The students—with growing context and knowledge—read energetically and enthusiastically and learned more and more from the articles.

But here's the really interesting part. They also learned more and more from the book itself, which was transformed from a novel pleasantly set in a unique historical period into a deep study of that period with a rich and useful context. They started to understand the book's allusions and references.

The strategy Colleen used is called *embedded nonfiction*. The idea is to connect and combine nonfiction with other texts (both fiction and nonfiction) to ensure richer engagement and better leveraging of knowledge. It results in students reading more nonfiction with more learning—and also getting more knowledge and understanding out of the fiction they read.

Ask Knowledge-Based Questions

Another way to enrich students' learning from nonfiction involves shifting the types of questions we ask. One of the tenets of U.S. education is the belief in teaching formal reading skills—the idea that students learn to read in large part by learning to predict, make inferences, interpret character motivation, summarize, and so on. Many teachers believe that these skills are fungible—that students who learn them in one context will be able to apply them in other contexts, and will thus develop the capacity to read anything.

However, there's lots of evidence to challenge this assumption. Consider one of your weak readers. Let's call

him John. Most likely, John has no problem making inferences when he watches a movie. The problem is not that John lacks skill in making inferences, but rather that he can't do it when he is reading texts—or when he is reading certain texts. Once you've ensured that he can read technically—that he can decode and read with enough fluency to have some cognitive capacity left over to reflect—it might be better to build his knowledge rather than practicing inferences with him. Or, if you're not sure, you can hedge your bets and do both, asking some skill-based questions and some knowledge-based questions.

A friend told me about her visit to a high-performing school—one of the

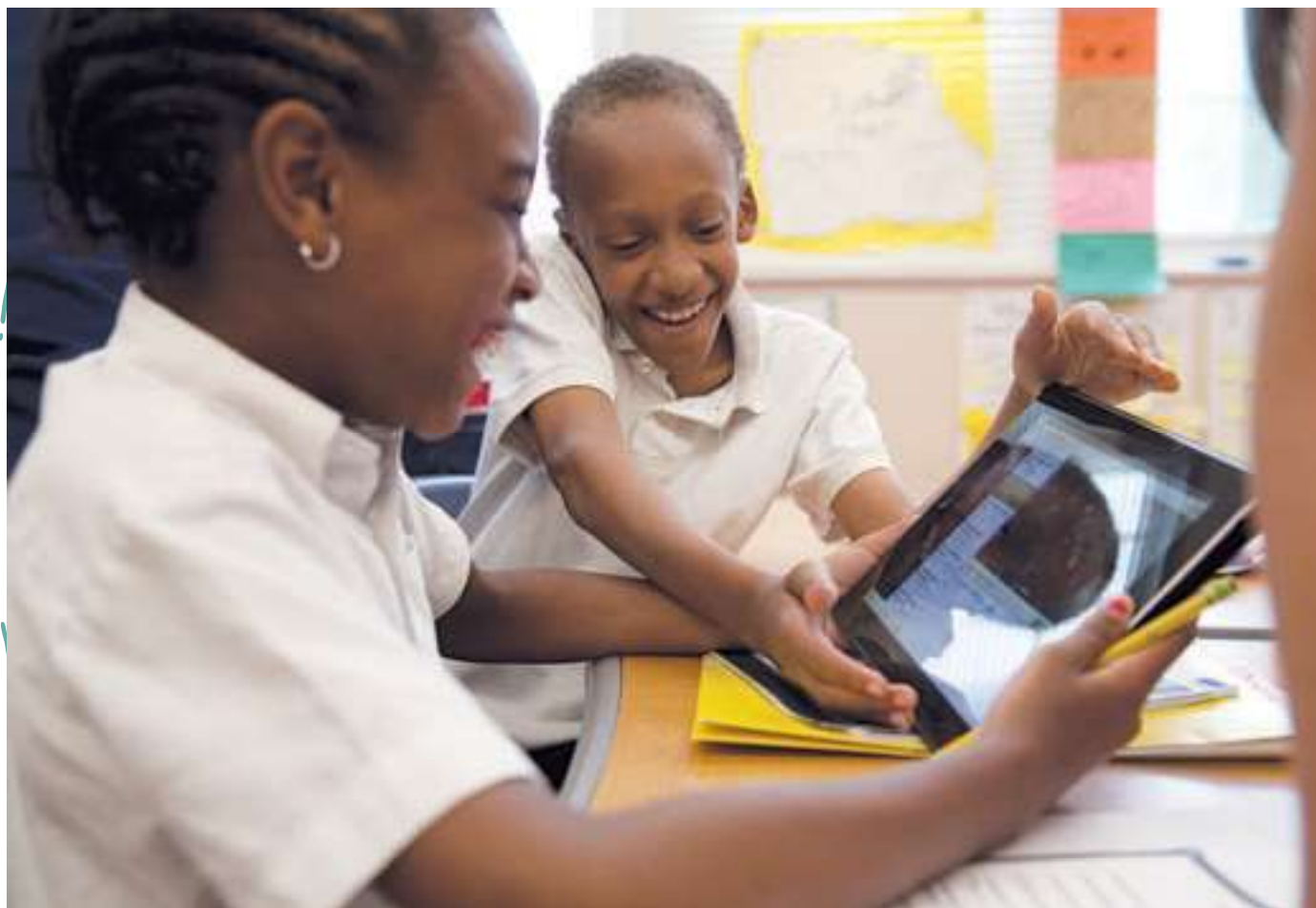


PHOTO BY KEVIN DAVIS

highest in the state she lives in despite serving a population of mostly poor kids. The school is more committed to developing background knowledge than most schools. For example, kindergarteners might be sent home with a book about ants or frogs they'd read in class. Instead of asking them to read it to their parents for homework and practice their decoding, as many schools would, this school would ask them to explain to their parents everything they'd learned about ants or frogs from the book. This practice emphasized knowledge development (retelling the facts) over skill development (practicing decoding).

I'd been thinking about what this might look like inside reading classrooms, and I soon had an opportunity to think it through myself. My daughter was reading a novel set during the U.S. Civil War. The protagonist, Emma, sneaks behind Confederate lines as a spy. As a teacher, I'd been trained to ask questions like this:

- What motivates Emma to aid the Confederate soldier?
- What does she learn about herself?
- Who else in the book feels a strong sense of duty to someone else?

Indeed, those questions could have made for an interesting and worthwhile discussion. But what if I also wanted to address the knowledge deficit, to try to maximize my daughter's absorption rate of background knowledge as she read? In that case, I might have thought about some different questions:

- What does Emma tell us about what soldiers died of during the Civil War? Is it surprising in any way? (Emma notes that far more soldiers died from disease than from battle, and that typhoid fever was a leading killer. Most people think more about dramatic combat deaths, but disease killed

more soldiers in almost every war until World War II.)

■ Is there anything in the text that tells us why so many soldiers might have died from disease during the Civil War? (Alan, the soldier, recalls how when he started to get weak and could not keep up with his regiment, he was left behind with no food or shelter. Students might also note that

most of my teaching career—and I'm not suggesting that teachers ask *only* fact-based questions. But if we don't ask any such questions, we may be tacitly socializing students to believe that facts are irrelevant. By asking some fact-based questions, we can chip away at the knowledge deficit and teach our students how to unlock knowledge from what they read.

Students routinely appear to understand what they read far more than they actually do.

Emma knows there's nothing she can do but comfort Alan—there's no medical cure, as we might hope there would be today.)

These fact-based questions are actually surprisingly rigorous, and like the more common questions, they could have led to a fascinating discussion. And the knowledge students built would have been applicable to more than just the Civil War—it could easily have been extrapolated and applied to other questions and time periods. Think of how powerful the following facts are in understanding events throughout history: Some deaths get more attention than others because they are dramatic; until recently, soldiers died mostly of sickness; and nursing used to mean comforting someone in death as much as restoring them to health.

Many of us are trained to think of such questions as second-rate or “not our job”—I know I would have for

Put Writing Before Discussion

Another challenge in building students' knowledge is that we sometimes remain in the dark about how much students understand about what they read, so we let gaps in knowledge and understanding persist. With that in mind, I offer a final idea to help students build knowledge and master nonfiction texts. But first a short story.

When people ask me whether I've read Shakespeare's *The Winter's Tale*, I never know what to say. I was assigned it in a class, where I discussed it and then wrote a paper on which I did quite well. But I never actually read the play. I was a college sophomore at the time, and busy with things that seemed more pressing than Shakespeare. Still, I went to class on the day we were slated to discuss the play, and it soon became clear that it was about jealousy. There were two kings, Leontes and Polixenes, who were friends until suddenly Leontes

became convinced that Polixenes had an affair with his wife. We discussed the possible sources of Leontes's sudden jealous rage and the ramifications of his unchecked suspicion. As I gathered the basics of the story, I was able to participate in our discussion, dropping in an occasional worldly wise chestnut about the nature of jealousy from the back row.

That night, I reflected on what my classmates had said and, harvesting lines from the first scene or two, wrote a paper about the hidden seeds of Leontes's rage. I aced the paper, and for years I thought that was hilarious. Of course, it isn't—not only because I missed out on *The Winter's Tale*, but also because my story is the archetype of a dynamic that happens in our classes over and over. The fact that my professor thought I had read and understood the play made her, I now realize, typical of many teachers.

Students routinely appear to understand what they read far more than they actually do—simply because of the way we structure our instruction. Typically, we read a text, then discuss it, and then ask students to write about it. The writing (a paper, a test, or some other format) is usually the means of assessment, but it actually conflates two things: how much students understood of what they read, and how much they were able to augment and supplement their understanding during subsequent activities. Thus, we often don't know, and surely overestimate,



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whether our students can understand the text on their own. This obviously limits our ability to support their knowledge development.

Sometimes the simplest fixes can be the most powerful, though, and here's a simple suggestion: Instead of read-discuss-write, try read-write-discuss. This would let you circulate and observe what students were able to glean independently from the text. Or even better, why not read-write-discuss-revise? This would give students a chance to show what they know both from their initial reading and from the discussion; and they could also reflect on how their initial understanding has progressed.

Knowledge Is Crucial

The ability to build knowledge by reading and to learn from texts is a crucial driver of student success. It is critical to fostering ultimate student autonomy. It is crucial to equity because many students' lack of background knowledge causes them to fall further and further behind.

Many teachers understand the importance of knowledge in reading, yet they've struggled to identify specific teaching methods to help students grow their knowledge and access knowledge-building non-fiction texts. To address that challenge, try the three strategies described here: embedded nonfiction, text-based questions, and the use of writing early in the lesson cycle. [a](#)

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TEXT

*Frontloading can
address gaps in
academic knowledge
so students are
prepared to read
complex texts.*

Doug Buehl



PREP

What does it take to comprehend a complex disciplinary text in science, social studies, mathematics, technical subjects, or other disciplines? Many of our conversations these days have centered on close readings, text-based questioning, and evidence-based responding. But what if what you need to know for satisfactory comprehension isn't in the text?

Authors and readers depend on one another—each is expected to contribute some of what is necessary for comprehension. Texts would be interminably long if authors had to tell readers everything they need to know. In effect, the reader's task is to reach an understanding with the author, a “meeting of the minds.” The result is a fusion of what an author says (text-based considerations) and what the reader brings as prior knowledge and experience (knowledge-based considerations).

Background knowledge has long been established as a make-or-break variable for reading comprehension. In their research synthesis of factors affecting comprehension, Alexander and Jetton termed knowledge as “the scaffold for text-based learning.”¹ Literacy researcher P. David Pearson described this dynamic as a virtuous cycle: “Knowledge begets comprehension begets knowledge.”²

Building Bridges

Although all students bring an amazing array of knowledge and experiences to the classroom, this knowledge base is diverse and may or may not be a match for the knowledge demands of disciplinary texts. Gaps in academic knowledge—of the topics, concepts, practices, and vocabulary at the core of learning a

discipline—can stymie even concerted efforts to comprehend a complex disciplinary text.

Frontloading, the scaffolding that precedes the reading of complex texts, anticipates academic knowledge gaps and builds bridges between the knowledge students bring and the knowledge demands of a text. Frontloading does not negate the reader's responsibility to work a complex text to achieve understanding. Frontloading should not be a foretelling of what the text says before students read; that's the reader's job to figure out. Instead, frontloading sets the stage for successful comprehension by establishing how this text intersects with the specialized knowledge building that has been in progress during the study of the discipline.

Following are three approaches to frontloading that are of particular importance to reading complex disciplinary texts.

Provide a Refresher

Author references to previous learning are a constant in disciplinary texts. Some authors implant these reminders to prompt readers to connect new material with prior knowledge. Although authors may expect students to mentally refresh what they've learned, we cannot trust that this will happen. It's tempting for students to peremptorily glide over such references without thoughtful pauses to integrate the new with the known.

In particular, students who come to the text with academic knowledge gaps benefit from a meaningful review of prior learning. Unfortunately, when an oral review is conducted, the persons who least need more practice verbalizing understandings—the teacher and a handful of knowledgeable student volunteers—





easy, low-tech method of review front-loading. With a timer set at a modest expectation (say three minutes), students respond to an informal writing prompt touching on relevant content, such as, “A science word I connect to volcanoes is ___ because ___” or “A common mistake when balancing equations is ___, so it’s important to ___.”

Quick writes are subsequently read and discussed with partners or

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in groups to expand the review. Or students can record their quick writes on sticky notes, which can be circulated among several students for a silent review of what their classmates recalled, and later posted on a board. Alternatively, the notes can be organized and summarized as a group activity. Many teachers find quick writes to be great class starters or wrap-up activities for those few extra minutes at the end of class.

Knowledge maps. Another review method engages partners or small groups in generating significant terms affiliated with a central concept. Group members must explain each term and justify its significance to understanding the central concept.

In one variation, groups can create a knowledge map—a kind of concept

tend to do all the talking. Such reviews tend to be cursory; the momentum is to move on to the new material.

In contrast, effective reviews ensure that every student is engaged in activating and verbalizing previously learned content. In these reviews, all students verbalize what they already know by sharing with partners or

in collaborative groups, rather than merely through whole-class listening and sporadic participation. What follows are some ways that students can examine their knowledge banks as a prelude to reading a text that extends, qualifies, or questions prior knowledge.

Quick writes. Quick writes are an

map exhibiting at least five key terms or pieces of information related to the central concept. For example, for the core concept “aristocracy,” students may attach words like *elites*, *ancient Greeks*, and *inherited wealth* in advance of studying the French Revolution. A class knowledge map can be constructed by soliciting items from each group, with the expectation that each item be explained and justified.

Frontloading activities such as these are not intended to devolve into look-up-and-copy Googling exercises. However, after groups have exhausted ideas through collaboration, allowing students to consult their notes and class materials to augment their maps reinforces the usefulness of these resources.

Spark the Conversation

One of the most valuable scaffolding resources students have is one another. Collaborative conversations are rich ways to pool available background knowledge on a topic. How you start these conversations is key.

Thought-provoking statements. Proposing thought-provoking statements gets the conversation rolling and disseminates background knowledge. For example, in a culinary arts class, the statement “organic foods are healthier than nonorganic foods” will likely lead to lively conversation. For this prompt, students create a T-chart and jot down at least two reasons for “yes” and two reasons for “no.” Next, students elaborate on their two lists with partners or in groups and later in whole-group sharing. Student conversations could surface a number of relevant background-knowledge hits. Some students may interject comments about the use of pesticides or antibiotics, genetically modified foods, food-borne pathogens, cost and availability, controversies

FIGURE 1. Mythbusters: Truth or Myth? (Prediction and Anticipation Guide)

What does the evidence say? Place a check in the “Truth” column if you predict the statement can be supported by scientific evidence. Place a check in the “Myth” column if you predict the statement is not supported by scientific evidence. Share with your partner your reasons for checking “Truth” or “Myth” and any evidence behind your choice.

Truth	Myth	
_____	_____	The “average” American overeats on Thanksgiving.
_____	_____	Overeating every once in a while is relatively harmless, as long as you compensate by eating less afterward.
_____	_____	A person may feel sleepy after a heavy Thanksgiving meal because turkey contains a chemical that makes one drowsy.
_____	_____	A stomach can expand to hold an average of about six cups of food during a single meal.
_____	_____	If you eat too much, your stomach could burst.
_____	_____	A big meal can trigger a heart attack.

Frontloading, the scaffolding that precedes the reading of complex texts, anticipates academic knowledge gaps and builds bridges.

over organic labeling, and so forth.

Arguable statements that cannot be categorically resolved are especially intriguing conversation starters. Students must use the texts to locate evidence that does or does not support the statement. They must decide whether the evidence is sufficient and reliable, and determine the extent to which future inquiry and research can contribute to understanding this issue.

Prediction and anticipation guides. In a variation of thought-provoking frontloading, prediction and anticipation guides present four to six arguable

statements. In Figure 1, students respond to statements about a unit on digestion.

Notice that each statement is written as an argument—a conclusion, generalization, explanation, or interpretation. None is a straightforward statement of fact (even the 4th statement, which looks factual, is a generalization and needs qualification). Merely asking students to respond to fact statements encourages a dynamic of “do you know this piece of information,” which can lead to skimming the text for answers rather

than careful reading to locate evidence. Also notice that students' personal opinions are not solicited.

After individual deliberations, students meet with partners or in groups to share which statements might be supported by the research. When they read the text, students annotate it by numbering places where the author talks about each statement.

Afterward, students return to their partners or groups to negotiate which statements can be confirmed by the evidence, which should be rewritten to be consistent with the evidence, and which have conflicting evidence and cannot be confirmed or rejected. The whole class then "argues" each statement citing evidence from the text.

Predict Through Vocabulary Knowledge

A third frontloading approach engages students in examining and speculating about key vocabulary lifted from a text they will subsequently read. In a sense, they will preview the language—the academic discourse—crucial to comprehension.

Some of the words selected should be review terms, some should be important general vocabulary likely known to students, and some should be domain-specific vocabulary that will be introduced in the text.

Rather than merely telling students definitions of difficult vocabulary, this process engages students in exploring the possible relationships between the words, sharing current knowledge about known terms, and predicting possible meanings.

Exploring related words. One vocabulary-frontloading option involves developing two lists of key vocabulary terms used by an author. Column A should emphasize domain-specific

FIGURE 2. Sample Vocabulary Lists

Column A	Column B
extinct	cloning
biotechnology	Woolly Mammoth
DNA	scientists
donor animal	back to life
ecosystem	survive
species	cells
genetic	laboratory
biodiversity	living things
preserved tissue	endangered

vocabulary and new terms introduced by the author. Column B should contain words that most students know, including general words associated with the topic. For example, the vocabulary lists in Figure 2 prepare students to read a biology text.

Vocabulary frontloading is intended to be a team activity. Partners examine the two lists, talk over current knowledge about the words, and decide on a series of plausible pairs that make meaningful links. A pair must connect a word from column A with a word from column B using prior word knowledge and predictions and then provide a rationale for the connection.

For example, some students might pair *extinct* with *Woolly Mammoth*,

as this animal is now extinct. Others may pair *extinct* with *survive*, as extinct animals have not survived, or *extinct* with *endangered*, as endangered animals could become extinct.

The goal is on-topic conversation that explores key language of the text and anticipates material that will be covered by the author.

Vocabulary previewing. A variation of vocabulary frontloading provides students with key terms in the order they appear in the text. Partners talk over the terms and then write a predictive paragraph using all terms and following the list's order. The sequence can suggest to students possible relationships between terms and help them theorize about potential meanings of unknown vocabulary. For example, the following is a succession of key terms for a social studies text: *redistrict, undemocratic, gerrymander, favoritism, incumbent, legislature, voters, constituency, majority, political party, hard-core base, reform, bipartisan commission.*

The author introduces two terms that are probably new to students—*gerrymander* and *bipartisan commission*. The rest are either review terms or words that are generally known. The order of the terms provides students with an impression of what the author will tell them.

Both vocabulary-frontloading practices sensitize students to be alert for how the author uses this language. Vocabulary frontloading is an excellent setup for students to practice using designated words to write a post-reading summary of the text.

Why Frontloading Matters

Frontloading practices should be segued into the ongoing flow of knowledge building within a discipline. The reading of a text, of course,


EL Online

For a discussion of how to get readers to persist and read more, see the online article "Building Stamina for Struggling Readers and Writers" by Paula Bourque at www.ascd.org/el0217bourque.

should be situated within the natural progression of learning about topics within a discipline. Instructional activities that develop disciplinary knowledge—classroom inquiry, hands-on activity, student collaborations, teacher presentations, and interactions with multimedia—all prepare students to read complex texts by introducing concepts and providing a baseline for further learning.

Frontloading focuses on assumed knowledge—what an author expects readers to know—that can derail comprehension if it's not acquired. Frontloading provides much-needed scaffolding for students who come to our classrooms lacking access to academic knowledge in their out-of-school lives. Particularly promising

The reading of a text, of course, should be situated within the natural progression of learning about topics within a discipline.

are frontloading practices structured so that students can take advantage of one another as knowledge assets—an untapped resource in many classrooms. 

¹Alexander, P. A., & Jetton, T. L. (2000). Learning from text: A multidimensional and developmental perspective. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 285–310). Mahwah, NJ: Erlbaum.

²Pearson, P. D. (2011). Toward the next generation of comprehension instruction: A coda. In H. Daniels (Ed.), *Comprehension going forward: Where we are and what's next* (pp. 243–253). Portsmouth, NH: Heinemann.

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Research-Based Principles to Build Knowledge Networks
Principle #1: Big Ideas
Big ideas are concepts and principles that allow for the most efficient and broadest acquisition of knowledge across a range of examples in a domain. Big ideas serve to emphasize what is important, while concepts focus on smaller units of knowledge.
Principle #2: Word Knowledge
Words are learned incrementally and cumulatively after many different exposures. As children encounter a word repeatedly and in multiple contexts, they accumulate more and more knowledge. Children need a threshold of content-specific words in order to talk about their ideas. Selected words focus on the big ideas and identify important, depictable words that are thematically related and that can be applied to higher-order concepts.
Principle #3: The Use of Multiple Genres
The integration of texts in topical units promotes both frequent encounters with words and knowledge across book genres and creates a deeper and more thorough understanding of the topic. When we use both genres (narrative nonfiction, informational) we can provide a more intensive experience for children, allowing them to deeply process lexical sets of content vocabulary and related concepts.
Principle #4: Distributed Review
Distributed review reinforces the essential building blocks of information within a content domain. Review requires a) enough time spent on a topic; b) that it be distributed over time; c) that it be cumulative, with less complex information integrated into more complex tasks and d) varied contexts to illustrate its wide application to children's understanding of information.
Principle #5: Intentional Opportunities for Language Engagement
Children need to build a strong oral language foundation in conjunction with many opportunities to learn content and connected concepts. Activities that encourage more complex thinking and problem-solving opportunities help children manipulate the knowledge they acquire to develop new knowledge.

Research-Based Principles to Build Knowledge Networks
9th Grade Sample

Principle #1: Big Ideas – Civil Rights Movement: Dr. Martin Luther King, Jr.

- The Civil Rights movement brought about legislation to end segregation.
- The Civil Rights movement brought about Black voter suppression and discriminatory employment and housing practices.
- Dr. Martin Luther King, Jr. led the movement to end segregation and fought against prejudice in the U.S. through peaceful protest.

Principle #2: Word Knowledge

Text #1: "Letter from Birmingham Jail" (letter)	Text #2: "I Have a Dream" (speech)		Text #3: "Choice: A Tribute to Dr. Martin Luther King, Jr." (essay)
<ul style="list-style-type: none"> • negotiation • self-purification • civil disobedience • moral • moderate • oppression • demonstrator • segregate • tension • scintillate • categorize • humiliate • precipitate • commend • relegate • integrating • sanctimonious 	<ul style="list-style-type: none"> • beacon • creed • decree • degenerate • devotees • emancipation • exalted • exile • gradualism • hallowed • inextricably • interpose • interposition • invigorating • languishing • manacles • nullification 	<ul style="list-style-type: none"> • oasis • promissory • prosperity • seared • threshold • unalienable • vast • wallow • withering 	<ul style="list-style-type: none"> • ancestral • dispossession • Reconstruction • brutality • sensibility • abandonment • stubbornness • colossal • serene • resistance • revolutionary • philosophy • disinherited • heritage • ephemeral

Principle #3: The Use of Multiple Genres

- Text #1: "Letter from Birmingham" Jail (letter) written on April 16, 1963
- Text #2: "I Have a Dream" (speech) delivered on August 28, 1963
- Text #3: "Choice: A Tribute to Dr. Martin Luther King, Jr." (essay) written in 1972

Principle #4: Distributed Review

- *Timeframe:* 10-day Unit
- *Before Reading:* K-W-L-H Chart, Anticipation Guide, Vocabulary Improvement Strategy, Frayer Model, Word Categories, Multimedia/Technology (videos)
- *During Reading:* Jigsaw Strategy, Text-to-Text/Text-to-World/Text-to-Self Connections, Interpreting Historical Contexts, Reading Checks, Questioning the Author, Reciprocal Teaching
- *After Reading:* Extending the Text, Culminating Task, Writing Connections, Project-Based Learning

Principle #5: Intentional Opportunities for Language Engagement

- *Before Reading:* Anticipation Guide/Vocabulary Improvement Strategy (**Reading, Thinking, Speaking**)
- *During Reading:* Informational Circle/Socratic Seminar with Note-Taking Guide (**Reading, Writing, Thinking, and Speaking**)
- *After Reading:* Multimedia Presentations (**Reading, Writing, Thinking, Speaking**)

Handout #5 Instructional Task Mining Protocol

Phase I: Examine <i>What do you see? What are your initial noticings and understandings of the instructional task?</i>	Phase II: Describe <i>How do the five guiding principles for content-rich instruction live in this instructional task?</i>	Phase III: Interpret <i>How is the connection between building knowledge and reading established in this instructional task?</i>

Grade 7: “On Women’s Right to Vote”

Purpose of Stack	Text(s)
<p>The purpose of this stack is for students to explain how Susan B. Anthony establishes and achieves purpose using diction and syntax in her speech, “On Women’s Right to Vote.” Students will then track the development of her argument, analyzing the types of reasoning used and their effectiveness. Throughout the analysis, students will practice explaining the meaning and significance of rhetorical appeals. This stack will also prepare students to write in response to the given prompt, using textual evidence as support.</p>	<p>“On Women’s Right to Vote” by Susan B. Anthony</p>
<p>Text: “On Women’s Right to Vote” by Susan B. Anthony Estimated Timeframe: three to five 50-minute class periods Note: The estimated timeframe will vary based on instructional routines and student needs.</p>	
Objectives	Benchmarks/ELA Expectations:
<p>Students will:</p> <ul style="list-style-type: none"> • Explain how Susan B. Anthony uses diction and syntax to establish and achieve her purpose in “On Women’s Right to Vote.” • Track the development of Susan B. Anthony’s argument in “On Women’s Right to Vote.” • Analyze the types of reasoning used and their effectiveness. • Write an argumentative response to the following prompt: How does Susan B. Anthony develop her 	<p>Spotlight</p> <p>ELA.7.R.2.3: Explain how an author establishes and achieves purpose(s) through diction and syntax.</p> <p>ELA.7.R.2.4: Track the development of an argument, analyzing the types of reasoning used and their effectiveness.</p> <p>Accompanying</p> <p>ELA.7.R.3.2: Paraphrase content from grade-levels texts.</p> <p>ELA.7.R.3.4: Explain the meaning and/or significance of rhetorical devices in a text.</p>

<p>argument in “On Women’s Right to Vote” and is it effective? Use textual evidence to support your response.</p>	<p>ELA.7.C.1.3: Write and support a claim using logical reasoning, relevant evidence from multiple sources, elaboration, a logical organizational structure with varied transitions, and acknowledging at least one counterclaim. ELA.7.V.1.3: Apply knowledge of context clues, figurative language, word relationships, reference materials, and/or background knowledge to determine the connotative and denotative meaning of words and phrases, appropriate to grade level.</p> <p><u>ELA Expectations</u> ELA.K12.EE.1.1: Cite evidence to explain and justify reasoning. ELA.K12.EE.2.1: Read and comprehend grade-level complex texts proficiently. ELA.K12.EE.4.1: Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations. ELA.K12.EE.6.1: Use appropriate voice and tone when speaking or writing.</p>	
<p>Explicit Instruction</p>	<p>Discussion Questions and Sample Responses <i>(Student responses may vary.)</i></p>	<p>Instructional Task(s)/Check for Understanding</p>
<p><u>Part I - Before Reading</u></p> <ul style="list-style-type: none"> • Knowledge Pulse Check: Students will complete a “Myth Buster” activity with statements related to women’s suffrage to pulse check their existing knowledge on the women’s rights movement. Students will work with a partner to share out their marking of “Truth” or “Myth.” Teacher will circulate to listen to student conversations. (Note: Students will revisit this at the end of the instructional task cycle to revisit and internalize truths to build knowledge.) 	<ol style="list-style-type: none"> 1. Who is the writer/speaker? <i>Sample response: Susan B. Anthony</i> 2. What is his purpose for writing? <i>Sample response: She is calling attention to the right of women being able to vote since it is a right of all people, according to the Preamble of the Constitution.</i> 3. Who is the intended audience? <i>Sample response: Governing powers of society, all men, and women so they understand their role (men, who are not superior, and women who should be seen as to men).</i> 	<p>Text Annotations: Selective highlighting and marginal notes will be used during the first two readings to provide insight into student understanding:</p> <ul style="list-style-type: none"> • First Read: Initial understanding for important lines that stand out most to students. • Second Read: Highlighting and writing marginal notes for diction and syntax that help establish and achieve Susan B. Anthony’s purpose. <p>Note Catcher Graphic Organizer: A note catcher graphic organizer will be integrated during the third look into Anthony’s speech to analyze her</p>

- **Vocabulary Frontloading:** Students will be given two vocabulary lists of words taken from the text. They will work with a partner to create a connection between a word in Column A and another word in Column B. This will allow students to interact with Domain 2 and 3 vocabulary words.
 - Upon completing both the Myth Buster and Vocabulary Frontloading activities, students will create predictions for the text, along with big ideas related to the content-rich topic both activities revealed.

Part II - During Reading

- **First Read for Initial Understanding:** Students will engage in a first read of “On Women’s Right to Vote,” initially annotating for lines that stand out most to them.
 - **Discuss:** After this first read, the teacher may have students turn-and-talk for their initial reactions and ideas about the text and its possible meaning. Teacher will circulate to listen for understanding or rising misconceptions.
- **Purpose, Diction and Syntax Model:** Upon sharing out after the first read, teacher will launch into a model of how a reader detects an author’s purpose

4. What contextual information is important to know?
Sample response: In November 1872, Anthony voted in the presidential election. Two weeks later, she was arrested. After her indictment, Anthony gave this speech in response to the charges.
5. What is the tone of the text?
Sample response: These answers could vary but should include words such as factual, sharp or confident.
6. What is the argument?
Sample response: Since the Preamble of the U.S. Constitution references “We, the people” and not “We, the male citizens,” women are included in the liberties of all citizens, including voting. If women were to be denied this right, then the U.S. is not operating as a democracy, but rather an oligarchy or aristocracy, and do not even see women as people.
7. What types of logical reasoning does the speaker use to create their argument? What logical fallacies, if any, exist?
Sample response: Susan B. Anthony leans into deductive reasoning to create her argument. She uses the Preamble of the U.S. Constitution to follow the pattern since it says “We, the people,” then all people, including women, are allowed the liberties of everyone else. She also includes inductive reasoning when she

argument and its effectiveness based on her reasoning. This graphic organizer builds on the text annotations students have already completed and should serve as a stepping stone and “note catcher” for their argumentative writing response.

Element of Text	Answer with Supporting Textual Evidence
Writer/Speaker	
Purpose for Writing	
Intended Audience	
Important Context	
Tone	
Argument	
Types of Reasoning Used	
Logical Fallacies	
Is the argument effective? Y/N	
How/Why is it effective?	

Class Discussions: Use class discussions, including student turn-and-talks, conversations during student practice, and whole class discussions to gauge level of understanding, grasp of content and misconceptions needing clarification.

Argumentative Writing Task: Write an argumentative response to the following prompt: How does Susan B. Anthony develop her argument in “On Women’s Right to Vote” and is it effective? Use textual evidence to support your response.

<p>through their use of diction and syntax. Teacher will note that in 6th grade students explored the rhetorical appeals that authors utilize (logos, ethos and pathos), but now as 7th graders, they will be layering rhetorical devices into their toolbox as readers. Teacher will think-aloud and model this process through selective highlighting (highlighting specific word choices and rhetorical devices that establish and help achieves the author’s purpose in one color, syntax choices in another; writing marginal notes for each piece highlighted is recommended to note why it is was highlighted in the first place)</p> <ul style="list-style-type: none"> ○ Student Practice: Once modeled, students will continue this process individually or with a partner, highlighting and writing marginal notes for diction and syntax that help establish and achieve Susan B. Anthony’s purpose. ○ Discuss: Class will come back together to have a discussion recapping their findings for diction and syntax, collectively solidifying Susan B. Anthony’s purpose and how she achieves it through her word choice, syntactical choices and rhetorical devices. 	<p><i>references African American males having the capability of voting, reasoning that since a minority group was given the right to vote, another minority group such as women should be granted the same rights. There are no logical fallacies that exist.</i></p> <p>8. Is it effective? (Does it accomplish what it intended to accomplish?) <i>Sample response: While Susan B. Anthony was convicted of casting an illegal ballot, she is successful in logically presenting her argument clearly for the audience. She intended to create an argument that showed women were equal to men, based on government documents and questioning if women were actually people, which they were.</i></p> <p>9. How and why is it effective? (Did the writer/speaker use rhetorical appeals? Devices? If so, which one(s) and how does this aid in the effectiveness of the text?) <i>Sample response: Responses will vary based on the rhetorical devices and appeals students choose to use as evidence. This may range from her use of the rhetorical appeals of ethos, pathos and logos (all are present, but mostly logos), and rhetorical devices of rhetorical questions (“Are women persons?”) or hyperbole (“Are women persons?” and comparison that the U.S. is an oligarchy or aristocracy if women are not given voting rights).</i></p>	<p>Addressing Student Misconceptions:</p> <ul style="list-style-type: none"> ● Modeling: Students may struggle with explaining Anthony’s purpose and how she establishes it with diction and syntax, so consider using the whole class model to support students through this process, using the text to drive the think-aloud and model of selective highlighting/marginal notes. This may also be useful when students are working through the note catcher graphic organizer to analyze her argument and types of reasoning used. ● Questioning: Teacher might need to have additional scaffolded questions prepared alongside the discussion questions outlined in this template to fill existing student gaps from previous grade levels (i.e., author’s purpose, author’s argument, rhetorical appeals and figurative language. ● Anchor Charts: Students may struggle with the concepts of diction and syntax, including rhetorical devices that might be utilized. Consider having an anchor chart posted in the room for students to reference in case there are existing gaps. For this grade level, this includes metaphor, simile, alliteration, onomatopoeia, personification, hyperbole, allusion, idiom, irony and rhetorical questions. This might be an option for the types of logical reasoning
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- **Argument and Reasoning Model:** Now that students have explained Susan B. Anthony’s purpose, students will dive deeper into her argument and types of reasoning used. This also includes possible fallacies in her reasoning as well. While modeling, ask students to begin filling out the graphic organizer and answering the questions found in the Instructional Task section, focusing on those questions that serve as the foundation of analysis. Some portions of the graphic organizer have been covered in the second reading of the text, where students looked closely into diction and syntax, but this reinforcement will give them further opportunity to deepen understanding of the text, thus enhancing their ability to analyze her argument and reasoning. If students struggle to identify the argument, consider doing a more explicit model to start the process of analyzing the argument.
 - **Student Practice:** Once modeled, students will continue this process individually or with a partner, using the graphic organizer to jumpstart analysis of argument and reasoning.
 - **Final Discussion:** Class will come back together to discuss Anthony’s argument, types of reasoning used and possible

(deductive, inductive and abductive) and fallacies in reasoning (informal).

- Reference B.E.S.T. ELA Standards for helpful resources to use when creating anchor charts (pages 176-182).

fallacies in her reasoning. Teacher will ensure that students are referencing the text in their share outs, but also using the academic language of the standards (i.e., diction, syntax, rhetorical devices, logical reasoning, deductive reasoning and fallacies) to reinforce and ensure understanding of the terms. This discussion is a means for students to collaborate and solidify understanding of Anthony's purpose and argument, so they are prepared to write about it and its effectiveness for the final writing task.

Part III - After Reading

- **Culminating Task:** Once students have completed their analysis, as a culminating task, students will write an argumentative response to the following prompt: How does Susan B. Anthony develop her argument in "On Women's Right to Vote" and is it effective? Use textual evidence to support your response.

Myth Buster Anticipation Guide: “On Women’s Right to Vote”

BEFORE READING		Source Title: “On Women’s Right to Vote”	AFTER READING	
Truth	Myth		Truth	Myth
		Women did not have the right to vote in 1872.		
		Susan B. Anthony was a prominent leader in the civil rights movement.		
		Elizabeth Cady Stanton gave her famous speech on women’s right to vote in 1873.		
		The right to vote for women was granted in 1873.		
		<i>On Women’s Right to Vote</i> cites an excerpt from the Bill of Rights.		
		<i>Disfranchisement</i> is the restriction of suffrage (the right to vote) of a person or a group of people, or a practice that has the effect of preventing a person exercising the right to vote.		
		Congress ratified the 19 th Amendment in 1920.		

Vocabulary Frontloading Activity

Step 1: Examine the two lists and discuss your current knowledge about the words with a partner/group.

Step 2: Connect a word from Column A with a word from Column B using prior word knowledge and predictions, providing a rationale for the connection. Be prepared to share out.

Column A	Column B
Suffrage	Ex Post Facto
19 th Amendment	Derive
Indictment	Sovereign
Allege	Oligarchy
Preamble	Aristocracy
Disenfranchisement	Endure
Mockery	Immunities
Secure	Void
Ballot	Null

"On Women's Right to Vote" - Susan B. Anthony (1873)

Friends and fellow citizens: I stand before you tonight under indictment for the alleged crime of having voted at the last presidential election, without having a lawful right to vote. It shall be my work this evening to prove to you that in thus voting, I not only committed no crime, but, instead, simply exercised my citizen's rights, guaranteed to me and all United States citizens by the National Constitution, beyond the power of any state to deny.

The preamble of the Federal Constitution says: "We, the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America."

It was we, the people; not we, the white male citizens; nor yet we, the male citizens; but we, the whole people, who formed the Union. And we formed it, not to give the blessings of liberty, but to secure them; not to the half of ourselves and the half of our posterity, but to the whole people - women as well as men. And it is a downright mockery to talk to women of their enjoyment of the blessings of liberty while they are denied the use of the only means of securing them provided by this democratic republican government - the ballot.

For any state to make sex a qualification that must ever result in the disfranchisement of one entire half of the people, is to pass a bill of attainder, or, an ex post facto law, and is therefore a violation of the supreme law of the land. By it the blessings of liberty are forever withheld from women and their female posterity.

To them this government has no just powers derived from the consent of the governed. To them this government is not a democracy. It is not a republic. It is an odious aristocracy; a hateful oligarchy of sex; the most hateful aristocracy ever established on the face of the globe; an oligarchy of wealth, where the rich govern the poor. An oligarchy of learning, where the educated govern the ignorant, or even an oligarchy of race, where the Saxon rules the African, might be endured; but this oligarchy of sex, which makes father, brothers, husband, sons, the oligarchs over the mother and sisters, the wife and daughters, of every household - which ordains all men sovereigns, all women subjects, carries dissension, discord, and rebellion into every home of the nation.

Webster, Worcester, and Bouvier all define a citizen to be a person in the United States, entitled to vote and hold office.

The only question left to be settled now is: Are women persons? And I hardly believe any of our opponents will have the hardihood to say they are not. Being persons, then, women are citizens; and no state has a right to make any law, or to enforce any old law, that shall abridge their privileges or immunities. Hence, every discrimination against women in the constitutions and laws of the several states is today null and void, precisely as is every one against Negroes.

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