Reading on Science, Social Studies Teachers' Agendas

To meet the expectations of the common standards, Kentucky’s science and social studies teachers are incorporating language arts into their classes

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Beth Fahlbush is moving from desk to desk, helping her high school juniors sharpen their essays. They're zeroing in on their lead paragraphs and hunting for the evidence they must marshal to build the bodies of their essays.

"If the evidence does not directly relate to your thesis, cut it out," Ms. Fahlbush tells one girl, who listens as she twists a strand of hair in her fingers. "Remember," the teacher says to a tall boy slouched in a nearby seat, "you are writing an argumentative essay. So you need to defend each of your points."

The teenagers in Room 122 of Scott High School, here in northern Kentucky, are not in English class. They're in U.S. history. And what's happening represents a leading edge of key changes that are taking shape as states and districts put the Common Core State Standards in English/language arts into practice.

The seven middle and high schools here in Kenton County are among the first in the country to pilot a new approach to the discipline. It targets the most pivotal ideas in the standards, which demand that students become strong readers not only of fiction but of informational texts, and that they become writers able to wield research, analysis, and argumentation skills as powerful tools. Reflecting the standards themselves, the approach involves teachers of all subjects in teaching literacy skills pertinent to their disciplines.

Variations on those themes are echoing nationwide, since all but four states have adopted the standards and are now starting to grapple with how to turn them into instruction. As the first state to adopt the standards—in February 2010—Kentucky jumped into the work early.
Shaping a Strategy

Kenton County’s version is guided by a set of teaching tools that were developed by the Literacy Design Collaborative, a loosely knit group of consultants working with the Bill & Melinda Gates Foundation, which has poured tens of millions in grants into supporting the common standards. More than 3,500 teachers in 50 districts in eight states, including Kentucky, are using the foundation’s grants—and guidance—to try out the tools. The foundation is supporting a Mathematics Design Collaborative that is creating teaching tools for the math standards, as well. (The Gates Foundation also provides support for coverage of K-12 business and innovation in Education Week.)

The centerpiece of the English/language arts toolkit is a collection of "template tasks." These short, fill-in-the-blank prompts are designed to open doors to instructional tasks that demand reading, writing, and analysis, and can be customized to each teacher's subject matter. They are structured to address three types of writing—argumentation, explanatory, and narrative—and nine types of cognitive process, such as synthesis, comparison, and evaluation.

A template task that focuses on argumentation and analysis, for instance, looks like this:

"[Insert a background statement that introduces the prompt] After reading ________ (literature or informational texts), write a/an ________ (essay or substitute) that addresses the question and support your position with evidence from the text(s)." It includes two additional levels of demand teachers can add if they choose: "Be sure to acknowledge competing views" and "Give examples from past or current events or issues to illustrate and clarify your position."

Kenton County social studies teachers used such a template to form the instructional task: "Does America still provide access to The American Dream to the 'tired, the poor, and the huddled masses?' After reading 'The Right to Fail,' the keynote address from the 2004 Democratic National Convention, and other literary and informational texts, write a synthesis essay that addresses the question and support your position with evidence from the texts."
Science teachers created their version of the instructional task by asking students to consider whether uranium use and nuclear fission are the best methods of producing energy in light of concerns about global warming. It was built into a larger instructional module for chemistry classes, aimed at building argumentation skills as students explore nuclear energy.

The prompt instructs students to read scientific sources supplied by their teacher and write a report addressing that question, supporting their positions with evidence from the texts and acknowledging competing points of view, with examples of past or current events to illustrate and clarify their positions.

The Literacy Design Collaborative has created 29 template tasks, which are available free online, along with guidelines that help teachers in scoring the resulting assignments. In the past two years, Kenton County teachers have used the templates as guides to build their own bank of 44 instructional modules in English/language arts, science, and social studies, said Gary McCormick, the district’s secondary-level literacy consultant.

A Slim Design

Kenton County officials say the templates' minimalist structure is deceptive.

Template Tasks

Template tasks are fill-in-the-blank “shells” that allow teachers to insert the texts to be read, writing to be produced, and content to be addressed.

Task 12 Template

[Insert question] After reading ______________ (literature of informational texts), write a/an ____________ (essay, report, or substitute) that defines ___________ (term or concept) and explains __________ (content). Support your discussion with evidence from the text(s). What ___________ (conclusions or implications) can you draw?

ELA Example:
What is a “metaphor”? After reading The House on Mango Street and drawing from other works you’ve read this year, write an essay that defines “metaphor” and explains how authors use it to enhance their writing. Support your discussion with evidence from the texts.

Social Studies Example:
What did the authors of the American Constitution mean by “rights”? After reading the Bill of Rights, write an essay that defines “rights” and explains “rights” as the authors use it in this foundational document. Support your discussion with evidence from the text. What implications can you draw?
Science Example:
Can "talent" be learned? After reading scientific sources, write an essay that defines "innate abilities" and explains its relevance to "talent." Support your discussion with evidence from the texts.

A Collection of Template Tasks

Teachers in Kentucky use models to craft questions for their students that elicit in-depth responses requiring them to research and justify their answers.

What would you recommend to help your community improve its air quality?

Does genetic testing have the potential to significantly impact how we treat disease?

After researching government documents on term limits, write an essay that identifies a problem created by term limits and argues for a solution.

How did the political views of the signers of the Constitution impact the American political system?

What ramifications does debt have for individuals and the larger public?

SOURCE: Literacy Design Collaborative

"They seem much simpler than they are," said Barb Martin, who oversees the work as the 14,000-student district's assistant superintendent for academic and student support. "How you fill in those blanks is crucial and takes a lot of careful thought. Unwise choices can sink the whole thing.

"This, to me, is the doorway to getting our kids to interact with text. They really weren't. They were being read to, and given notes, and summarizing what they heard," she said.

Weaving together content, reading, and writing marks a sharp departure from common practice, in which science and social studies teachers focus exclusively on content, Mr. McCormick said.

"We've found the structure of the [design collaborative] tools to be groundbreaking, because the content is forward at the same time as the literacy skills," he said.

Some Kenton County teachers weren't the biggest fans of the strategy when it was introduced in 2010.

Michelle Buroker, the Scott High School chemistry teacher who designed the nuclear-energy module, said that when science teachers got their first glimpse of it, they suspected it would be tough to find readings that are engaging, age-appropriate, content-rich, and full of writing-assignment potential.
"We thought we wouldn't be able to make it fit authentically into our content, that it would just make it harder for us to get through our [text]book," she said. "But now that we are finding those resources, I see that it's a good thing to have in my bag of tricks.

"It doesn't work for everything," she continued. "But when I can link [chemistry] to something real, like electromagnetic radiation from cellphones, or nuclear energy, the kids see the relevance of what they're learning, and there is more buy-in. They learn the content better."

Ms. Fahlbush, the social studies teacher, said it "was definitely foreign at first" to be explicitly teaching reading and writing strategies to her students.

"We had that mentality that you're not an English teacher, you're a social studies teacher, so that needs to be taken care of in another class," she said. "When I first started doing it, it definitely did take time away from my content, and I didn't like it.

"But now that I'm in the second year, I see that I am teaching the content, just doing it through the writing assignments. The social studies teachers talk about it; we all see our students writing better, and we can see from their open-ended and constructed responses that they are understanding the concepts better."

**Drawing Students In**

The emphasis on analysis and argumentation has paid off with student writing that is not only more informed, but more engaged, said Roger Stainforth, a Dixie Heights High School social studies teacher.

His students got "really fired up" by a recent writing prompt asking them to analyze and take a position on how the search-and-seizure provisions of the U.S. Constitution’s Fourth Amendment apply to students in school, Mr. Stainforth said.
"Kids this age want to be heard," he said. "They haven't known how to argue. But man, once they figure it out, they get into it! I used to get a few graphs from them, but now I get pages."

Students who have faced the writing prompts notice a difference between them and the kinds of assignments they got before their district began using the template tasks.

"It looked so innocent, just that little paragraph, but man, it was way harder than it looked," said Dylan Rohrer, a Dixie Heights senior who had to write in a social studies course last year about whether juveniles should be tried as adults.

"We spent like two weeks researching stuff, and we had to justify everything we said. I'm a pretty good writer, and I can usually just get by, writing, you know, whatever," he said with a sheepish laugh. "But I actually had to think through things. When I was done, I considered it an accomplishment. It was interesting to be challenged in school."

The Kentucky education department is working to spread the template-task idea to districts statewide through a **statewide group of networks** it built as a vehicle to scale up common-standards implementation.

Specialists tapped by the state meet monthly with regional groups of teachers, principals, and district leaders to discuss the literacy-design-collaborative work. In that way, the 166 Kentucky school districts that don't have foundation grants to use those models can learn about them from the eight that do, and adapt as they wish.

"The leadership networks are built on the premise of building the capacity of every single district to implement the standards in the context of highly effective teaching, learning, and assessment practices," said Karen Kidwell, who oversees the networks for the state education department.

"We focus on the questions, 'What is the intent of each standard, and how do you translate those into effective instruction and generate acceptable evidence of student mastery?' "
Regina Pelfrey, the literacy coach at Arnett Elementary School, in the Erlanger-Elsemere district, said the network meetings have been a powerful way to transmit the Literacy Design Collaborative strategy from neighboring Kenton County. The state's local network leader, Ruthie Staley, has helped the 2,200-student Erlanger district adapt the ideas for elementary school, Ms. Pelfrey said.

"I have to give the state a lot of credit," Ms. Pelfrey said during a break at Arnett. "Teachers are always having to learn new things that the state wants them to learn, but in the 25 years that I've been in education, there was never this kind of help."

**Making 'Targets'**

At Arnett, teachers have been working with Ms. Pelfrey to create "learning targets" and a curriculum map that are based on the common standards and reflect the skills and processes outlined in the literacy-collaborative template tasks.

A standard that asks 1st graders to "ask and answer questions about key details in text," for instance, becomes a "target," posted on a classroom wall, that says, "I will ask and answer questions about details in my story."

At the 3rd, 4th, and 5th grade levels, teachers are using Bloom's Taxonomy and the Depth of Knowledge framework to include verbs in those learning targets that reflect higher-level thinking processes, such as "analyze" or "critique," Ms. Pelfrey said.

The Depth of Knowledge framework, designed by University of Wisconsin-Madison professor Norman Webb as a model to align standards and tests, also can be used as an aid in designing student tasks that reflect the standards. Bloom's Taxonomy, created in the mid-1950s, is a method of classifying levels and types of cognitive processes.

Many Arnett teachers are including their students in designing the learning targets, Ms. Pelfrey said. In Loretta Simpson's 4th grade class, students helped create a target that says, "We will critique peers' writing using six good writing traits."

"They chose that word, 'critique,' " said Ms. Simpson. "We talked about what it was they would be doing, and the right word to describe it, and that is what they chose."
Ms. Pelfrey admits that when she was teaching, she would have just walked her students through a compare-and-contrast exercise and given them questions.

"It would have been me doing it," she said. "If the teacher creates it alone, the students are just watching. Transferring the work to the students is key."

**No Spoon-Feeding**

But it can be challenging. Arnett teachers are asking students to do things they're not used to doing.

In Trisha Bremer's 2nd grade class, the children recently read *Max Found Two Sticks*, Brian Pinkney's story about a boy who drums on his front stoop because he doesn't feel like talking to anyone. Then she asked the children to write about what Max was thinking and to point to places in the text that led them to say so.

"It was very challenging for them," she said. "They were saying, 'Please just tell me the right answer!' But the discussion was awesome. Light bulbs were going off. They realized there was no right or wrong answer, as long as they could defend their answer with examples."

Students in Dottie Durham’s 5th grade class were doing something similar: combing through a text for clues about characters' thinking.

They had just read a story about two men sharing a hospital room. Both were confined to their beds, but only one could see out the window, and he described the scenes of life outside for his roommate, who grew increasingly glum.

Quiet minutes went by as students pored over the text. One student, seizing on a sentence that said the man's feelings were "fermenting," offered that he was "getting sour and mean" about his deprivation. Ms. Durham nodded and said, "Good, very interesting."
Ms. Fahlbush uses primary documents to develop students' literacy skills in social studies classes.

—Pat McDonogh for Education Week

Those quiet minutes can be among the most difficult parts of the new standards' expectations, teachers in Kenton and Erlanger schools said. Learning to direct students back to the texts to search for answers, evidence, clues to meaning—rather than just supplying those answers—is not familiar practice for many teachers.

Kris Gillis struggled with that recently. An English teacher at Dixie Heights High School, Mr. Gillis said that in his nine years as a teacher, his students "have depended largely on me for meaning." But he is shifting strategies, trying to help students become more self-sufficient in understanding what they read.

That played out when he asked a class of seniors to analyze six poems by American and English writers, with the aid of explications by Harvard University poetry professor Helen Vendler and the College Board's Advanced Placement TP-CASTT framework for analyzing poetry.

The students had several days to read and analyze the poems, and then they were expected to "teach the class" how to read them, Mr. Gillis said. They took turns presenting their "lessons" in groups, with their teacher sitting in the back, listening.

"It got really uncomfortable at times," he said. "They kept directing questions to me, and I kept putting the questions back to them."

The students delivered a mixed bag; some of their interpretations were well-grounded in the text and others less so, Mr. Gillis said. A few of the students complained that their teacher hadn't taken a stronger role in guiding the discussion, he said.

"So I asked them, 'Why do you think I didn't?' There was a pause for a second, and one of them said, 'Because we have to get it ourselves?' And I said, 'Right.' "
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