

Structuring the Curriculum Around Big Ideas

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This article provides an inside look at Barbara Knighton’s classroom teaching. She uses big ideas to guide her planning and instruction and gives other teachers suggestions for adopting the big idea approach and ways for making the approach easier.

This article also represents a “small slice” of a dozen years of collaborative research, development, and reflection on teaching conducted by a team consisting of a researcher on teaching (J.B), a social studies educator (JA), and an elementary teacher, Barbara. Here we focus on powerful (often referred to as “big”) ideas. It has special relevance in situations where teachers are working to establish an initial knowledge base when elementary students’ prior knowledge is limited and disconnected.

The importance of structuring content around powerful ideas has been recognized at least since the early 20th century, when educational philosopher John Dewey wrote about them as the basis for connecting subject matter to students’ prior knowledge in ways that make their learning experiences transformative. When teaching about an object, tool, or action, for example, one would ordinarily attend to propositional knowledge (what it is, why and how it was developed, etc.), procedural knowledge (how to use it), and conditional knowledge (when and why to use it). Surprisingly enough, big ideas are typically not found even in textbook guides or as part of state and local standards and benchmarks. Big ideas are more generative or transformative than other aspects of a topic, and they provide the basis for worthwhile lessons and learning activities.

Three Layers of Powerful Ideas for Teaching

Big ideas are multilayered. The most macro layer includes overarching cross-curricular and yearlong content. These ideas pop up frequently during planning and implementing of units and lessons. One such big idea that Barbara emphasizes throughout the year, for example, is “When you encounter something new or unusual, keeping an open mind without making value judgments allows you to appreciate the realm of possibilities and fosters curiosity.” Another example at this macro level is the idea that “Logic is a powerful tool for making sense of the world and how it works.” Often big ideas at this level exist without teachers being aware of how they influence their teaching.

The next level of big ideas applies throughout a unit of instruction. These big ideas can affect the structure and planning of a

unit. Absence of this level can lead to disconnected sets of lessons that focus primarily on activities. Examples of at-the-unit level big ideas include: geography affects how you meet your needs; people are more alike than different; and people make choices based on personal preferences, economic resources, local availability of potential options, climate, etc.

The final level of big ideas involves specific lessons. These ideas guide the teacher’s decisions associated with discourse during lessons and related activities and assessments. Examples of lesson-specific big ideas include: trade is one way to get the things you need or want; it works best when each person has something the other wants; families change and adapt to changes; the money people pay the government is called taxes.

It can be challenging for teachers to keep all three levels of big ideas in mind as they plan, implement, and assess lessons. However doing so, it enhances meaningfulness; is cost effective; and provides the most opportunities for powerful instruction in the time available (“If you don’t know where you are going, how will you know when you get there?”).

Barbara’s Focus on Big Ideas

As a result of her collaboration with us, Barbara has become much more systematic in structuring her teaching around big ideas, both in her advance planning and in her decision making during lessons. Based on her experience, she believes that teachers go through four stages in developing expertise in structuring their teaching around big ideas. At first, they are “unconsciously unskilled” about big ideas, thinking that they already focus on them often because they follow textbooks closely and assume that their content is structured around big ideas. However, if something causes them to assess their teaching critically in this regard, they become “consciously unskilled,” recognizing that their instruction is more like a parade of facts than a network of content structured around big ideas. As they begin to work on the problem, they become “consciously skilled,” being careful to maintain focus on big ideas when planning and teaching. Eventually, through repeated experiences teaching a given content network with emphasis on the same big ideas, they become “unconsciously skilled,” highlighting and making connections among these ideas almost automatically, without much conscious thought.



Transportation requires energy. This photo shows a modern electric train in Okayama, Japan.

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Barbara was quickly sold on structuring content around big ideas once she heard the explanation for their importance and inspected lessons that had been designed accordingly. Consequently, she was highly motivated to implement this principle in her own teaching. She found it challenging to do so at first, however, and for awhile she resorted to jotting down the day's big ideas on index cards that she kept handy for reference during lessons (Sidebar 1). As she gained experience in using this approach, she became less reliant on these lists until she did not need to use them. She also became less mechanical in moving through the big ideas, shifting from going through them one at a time in a fixed order (checking items off the checklist), to making connections back and forth routinely. She has noticed that her students bring up big ideas more frequently now, and she has generalized the approach to her teaching in other subjects.

Barbara has found that, especially in the early grades, students have difficulty handling more than one or two new big ideas per lesson, so if plans call for introducing more than that, she will either pick one or two as "primary" big ideas and treat the others as secondary, or else spread the lesson over two days. Also, some big ideas are not the focus of any single lesson but are developed across a sequence of lessons, so they need to be articulated at an appropriate time. Much of what she emphasizes in a given lesson depends on what her students have learned in recent lessons and how well they have mastered it. She gives extra emphasis to big ideas that students find difficult and extra review when it appears necessary.

Big Ideas from a Unit on Transportation

- Transportation is the movement of people and things from one place to another.
- People move from one place to another for many reasons: to work, to go to school, to seek health care, attend recreational activities, to visit relatives, to worship, etc.
- Goods are moved from one place to another for many reasons: raw materials must be carried to factories to be processed; products from farms and factories must be carried to different places (e.g. markets and stores to be sold).
- People decide which means of transportation to use based on time, money, personal preferences, what types are available, etc.

Barbara also uses big ideas as the basis for deciding which children's literature selections to include in a unit, and for planning how to present and use the books. In reading *The Little Red Hen* story as part of a social studies lesson on food, she emphasizes that you have to grow, harvest, and grind wheat before you use it to bake anything. She reviews the story as a set-up for the land-to-hand story of bread, and in the process, inserts words such as harvest, dough, yeast, and mill that are not included in the book. For literacy, the story has a different purpose. It is read and discussed as children's literature with emphasis on its literacy characteristics and the social moral.

During another lesson in the food unit, Barbara has several big ideas in mind as she and her students work together to create peanut butter (Sidebar 2). She hopes that they will recall nutrition

and food group information as well as understand the steps and careers related to growing peanuts and manufacturing peanut butter. She also helps them analyze the amount of processing that the peanuts go through to become peanut butter. Then, during the literacy portion of the school day, the class reads the fanciful book *Peanut Butter and Jelly*, and compares the book to the actual steps learned in the social studies lesson.

Big Ideas about Production, Consumption, and Distribution

- The land-to-hand story of peanut butter begins with the planting of peanuts and completed when the jars of peanut butter are placed on the shelf in the store.
- Peanuts are an example of a food (vegetable) that is grown only in certain parts of the world due to climatic conditions, but they can be transported to other parts of the world.
- We depend on many people to bring peanuts and peanut products to us.
- There are many more people who buy peanuts and peanut butter than there are farmers who grow peanuts.

Barbara taught a similar lesson in earlier years before teaching with big ideas. However, Barbara admits her goals then were simply to provide all the students with a shared experience and to sequence the steps in making peanut butter. Most of the lesson was spent shelling and cleaning the peanuts. Students were engaged and motivated, but they rarely carried any big ideas away from the lesson. The following transcript excerpts illustrate the contrasts between these two approaches (T, teacher; S, a student; C, the class):

Dialogue Before Teaching with Big Ideas

- T: Today we will be making our own peanut butter just like the kids in the book.
- C: Cool! Do we get to smash them like the elephants?
- T: Well, in the book, they sit on the peanuts and that would make a big mess.
- S: I can't break peanuts.
- T: Let's look at the book to see what we need to do. "First you take the peanuts and you..."
- C: Crack 'em!
- T: Right, we'll need to crack the peanuts. That will be your job. I have a plate of peanuts on each table. You will crack them and get the peanuts out. Put the peanuts in the bowl. Remember, you need to be careful with the peanuts because we'll be using them to make peanut butter that we will eat.
- S: This one is empty.
- T: Sometimes there's a peanut that's already cracked and the nut is gone. Just throw those away.

The rest of the conversation revolved around how to shell the peanuts and what to do to keep them clean. Students then spent about 20 minutes shelling the peanuts and cleaning up the shells. Then, the students made peanut butter. (During this activity Barbara described what ingredients go into peanut butter as well as the function of the blender.)

Dialogue While Teaching with Big Ideas

- T: Here comes Peanut Butter. This whole book is just about how they make peanut butter. Look, there it is—a jar of peanut butter and a peanut butter sandwich, just like the one I had for lunch.
- T: [Using lots of visuals throughout the narrative.] Peanut butter came around about the same time as cars. Most peanut farms are located in these yellow states (locating on a political map)—Georgia, Alabama, North Carolina, Texas, Oklahoma, Virginia, Florida. Here is a picture of a peanut field. When the farmers plant the peanuts in the ground, they grow into leafy bushes. The bushes send up stalks that bend over and push back into the ground (shows picture). New peanuts covered with shells, grow under the soil at the end of the stalk. (Narrative continues and Barbara explains the steps that lead up to the harvesting process.)
- T: What do we call it any time that we pick fruits and vegetables and nuts? What do we call it when we get food that you've grown? Do you remember, Alan?
- S: Picking.
- S: Harvesting.
- T: They are harvesting the peanuts. So the first job is grow the peanuts. The second job is...harvest the peanuts.
- C: Harvest the peanuts.
- T: I wonder who my peanut farmer is going to be today? Mariah, would you like to be the owner of my peanut farm?
- S: Yeah.
- T: Mariah, you need to hire somebody to help you work on the farm. Pick quick. Joellen, you're going to be what we call a farm hand because you're going to help grow and harvest the peanuts.

Food comes from the land. This photo shows peanut leaves and freshly dug pods on a farm in Stuckey, South Carolina.

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In fact, that might be Joellen driving in the tractor. [Teacher is referring to picture in the book.] Do you think that's a job you could handle?

S: I don't know.

T: When you get to be a grown up do you think you'd be able to drive the tractor?

S: Some girls do.

T: Of course. My grandmother used to drive the tractor on the farm all the time. Let's take a look and see what happens next. A farmer harvests the peanut crop with a machine called a combine. They call it a combine because it does a combination of things. It cuts, thrashes, and cleans grain. The farmer takes peanuts and loads them into a truck. Farmers grow the peanuts, harvest the peanuts, and then load them on a truck.

T: We've got the peanuts in a trailer and we take them to a big warehouse. And at the warehouse... Oh, wait a minute! Who's driving the trailer? Joellen's the farm hand. She drove the tractor. Mariah, who are you going to hire to drive the peanuts to the warehouse?

S: Haley.

T: Haley, you drive the truck and take the peanuts to the warehouse. Then the people from Jiffy Peanut Butter, for example, come to the warehouse and they take a look. So somebody's going to need to buy the peanuts. Hmm. Sean, would you be the peanut buyer?

S: Yeah! But who do I buy them from?

T: You're going to buy them from Mariah. You're going to look at the trailer full of peanuts and you're going to decide if she did a good job growing them. If she did a good job growing them, you're going to buy the peanuts. After he buys the peanuts, he's going to take them to his factory. The factory is the place that makes the peanut butter. So take the nuts...

Steps in Developing Big Ideas

From these samples of dialogue, one can observe how Barbara's approach has shifted. She now includes four major elements in lesson segments that introduce big ideas. As a teacher, you should

1. Use your own experiences and behavior as an example,
2. Include books, photos, or other instructional resources to provide examples,
3. Make personal connections to your students' lives or experiences, and
4. Make connections to the big idea and to previous lessons.

Barbara tries to weave big ideas together over the weeks, and she tends to come back to one of them if she hasn't included it for a while.

Techniques for Focusing Attention

In addition to using big ideas to guide her own planning and teaching, Barbara uses several techniques to help her students recognize the importance of the big ideas, remember them, and to see their connections and applications. When she is ready to state the big idea initially, she does so with particular emphasis (e.g., prefacing it with group alerting statements such as, "Look me in the eyes"

or "Here's the scoop. The story of peanut butter begins with the planting of peanuts and is completed when jars of peanuts butter are placed on the shelf in the store. We depend on many people to bring peanuts and peanut products to us."

Then she restates it several times, often rephrasing it. For example, we depend on many people to bring this food to us. Part of the money we pay for the peanut butter is used to pay truck drivers, the factory workers, food inspectors, and storekeepers.

If a cause-effect linkage is involved, she often articulates the linkage both forward and backward ("What things do we have because there are peanut farms? If we didn't have peanut farming, what wouldn't we have?") These multiple repetitions and rephrased statements help assure that students both understand and remember the big ideas.

Encouraging a Conversation

Barbara's responses to and elaborations on students' answers to her questions similarly reemphasize the big ideas. If the response does not include the big idea she was hoping to elicit, she may ask follow-up questions or elaborate on the response in ways that express the big idea. During reviews, she elicits restatements of the big idea from the students themselves through purposeful questioning, and concludes the segment with her own final restatement.

For variety, she also uses other techniques suited to the situation. She often builds up to the big idea by introducing some basic information and then asking questions designed to stimulate the students to articulate the big idea themselves. For example, during a unit on childhood, as she showed and led discussion about toys and games used by pioneer children, she noted (or elicited from the students) that these children did not have a great many toys, that the toys they did have were simple, and that many of their playthings were found objects or toys constructed from materials found near the house. Then she cued the shift to the big idea by asking, "What are you noticing about toys and games from long ago?"

On occasions when a student responds to a question or makes a comment that articulates the big idea nicely, she sometimes will ask the rest of the students if they agree with this statement, as a way to reinforce their attention to it. She uses a host of other techniques involving construction, deconstruction, or co-construction with the same goal, namely that students get the big picture, look for patterns, and realize the generalizability of main ideas to other settings.

Adopting the Big Idea Approach

Barbara offers the following suggestions for teachers who wish to adopt the big idea approach:

1. Acknowledge that a shift from isolated facts to be memorized to networks of connected ideas would be desirable.
2. Commit to this style of structuring your teaching thoughts and lessons.
3. Learn your curriculum.
4. Review the content you teach in a given unit. Ask yourself, "What is the point? Identify the big ideas before you plan. What is the underlying theme? What is the content in the text an example

of?” Read about that topic. For example, suppose you are teaching a unit on cities and you are focusing on the local sites within your city. Think about what makes places special in any city. Importance can be based on exceptional beauty, unique activities that take place there, who of importance have visited the site, what special events have occurred there, who of importance have lived there, what special things are stored in the place, etc. Another way to state the big idea is “Places acquire status and are viewed as special due to exceptional beauty, unique location, history, popularity, etc.” In the end, while the class may learn about the special places in Chicago, for example, the underlying big idea can be generalized to the study of any other city.

5. In planning your lessons around big ideas, ask yourself, what is the ‘picture in your head’ you want to share with the students? What is the story you want them to share with others—and be able to replicate in other settings when they are confronted with other examples? Does the story explain a piece of how the world works?

6. Create well-developed units and lessons first, then revisit standards and state guidelines. Typically, the standards, guidelines, benchmarks, etc. are stated as themes, objectives, facts, etc. Be sure you go beyond standards and think of big ideas as making sense of the standards. Standards often identify the minimum content, rather than define all you teach.

7. Know your students. As they ask questions, think about the connections to your big ideas and how you’ll support further understanding of the big ideas in your responses.

Ways to Make the Approach Easier

Barbara also offers some ideas for making the big idea approach easier.

1. Quickly shore up your knowledge base by turning to sources such as *World Book* or *Encyclopedia Britannica*. Once you have a robust content base, ask yourself, what are the themes or ideas that can be generalized?

2. Use cue cards to make sure you don’t forget the key points associated with your narrative that connects the big ideas. Lace the narratives with concrete examples. Think of the big ideas as magnets and the facts presented adhere to them — serve to explain them, embellish them, illustrate them, etc.

3. As you plan and share the narrative ask the questions: What? Why? What do you make of this? How does it play out in other situations? Does its story provide an aspect of how the world works? Does it create mental images in your head that tell the story and can be applied in other settings?

4. Post the big ideas as you develop them with students. Having a running list of the big ideas provides a powerful visual and depiction of your unit “story.”

Conclusion

Big ideas are generative or transformative, and they provide the basis for robust units and worthwhile lessons and learning activities, as well as authentic applications. While they are typically not found in social studies textbooks—even in the teachers’ guides or in state

or local standards or benchmarks—and admittedly are sometimes difficult to write and time consuming to establish, they are the heart of instruction. 📖

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