

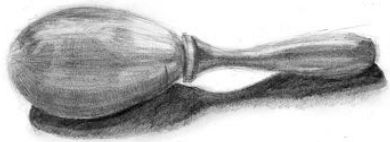
# The Object of Their Attention

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People make things. From tea bags to telescopes, from maps to masterpieces, from iPods to altars, people throughout history and across cultures design and make objects. Objects can be practical or decorative, simple or complex. They can be crafted by hand, manufactured by machine, made in a minute, or built across generations. Objects are made by particular people for particular purposes, although their use often extends beyond their makers' original intentions. Even the simplest objects reflect the social and physical contexts in which they were created as well as the contexts in which they continue to be used and appreciated. Closely examining everyday objects sparks students' curiosity and leads to increasingly complex thinking.

## Behold the Darning Egg

Consider a wooden sock darning, a tool designed to insert into a sock to provide a solid rounded surface against which to smoothly mend holes. Sometimes called a darning egg, it's an object you'd find in few homes today. But not so long ago, it was quite common. In fact, between 1865 and 1956 more than 100 U.S. patents were issued for sock darners.



Recently, as part of a research project on object-centered learning, I asked a teacher to examine a darning egg with a group of middle and high school students in an out-of-school academic setting. The teacher loosely guided the discussion by first directing students to make careful observations about the darning egg and then asking them to think expansively about questions, ideas, and themes related to it.

Students began by listing the darning egg's obvious features, pointing out that it is made of wood and has a rounded top, a slim handle, and so on. As the teacher encouraged them to continue to look closely, students began to notice more nuanced details: "It looks like it has been held a lot because the handle is smooth," one student observed. "There are scratches and small holes on the top where a needle would probably poke it," someone else pointed out. A third student held the object in her hand for a moment and commented, "It fits nicely in your hand—if you have a small hand."

Eventually, the teacher directed students to use their observations as a basis for brainstorming questions and ideas. "How do you use it?" they asked. "How much did it cost?" "Did people make such things themselves or buy them in a store?" Soon, the questions began to dig deeper. One student questioned whether using a darning egg to mend socks was part of someone's official job or something people did at home. The student who noticed that the darning egg seemed made for a small hand wondered whether this tool came in different sizes or was mainly used by women and children. Another student speculated on what kind of work people did that caused them to have holes in their socks. Several students noted that when their own socks get holes, they just throw them away, which led them to wonder how it would be different to live in a society in which you had to repair your clothes instead of replacing them. This led to discussion about the relationship between the cost of clothes, the activities people value, and the way people spend their free time.

As discussion continued, the teacher drew students' attention to some of the larger themes that were emerging, such as the changing character of family life in the 19th and 20th centuries, forms of work and divisions of labor, and manufacturing and social change. She began to envision how she would deepen students' exploration of these themes in future lessons.

### **Why Teach Thinking Through Objects?**

As I listened to the discussion, I was struck by the quality of students' thinking as they examined and discussed the darning egg. They made nuanced observations, posed generative questions, and developed explanations for the darning egg's features, often drawing evidence from their observations and their own background knowledge. They considered the context of the society in which people used this tool and made connections to their own lives. It took only a little probing to uncover the complexity of the object, and that complexity provoked students to think. Herein lies the key reason for teaching thinking through objects: Objects naturally invite high-level thinking and provide an authentic context in which to cultivate it.

Concrete objects are also engaging and accessible, especially in a group setting. You'll find that once students start generating observations and ideas about an object, it's hard to get them to stop. This is because looking carefully at something and trying to discern its features is a form of cognition with an intrinsically rewarding feedback loop. The more you look, the more you see; the more you see, the more interesting the object becomes.

Moreover, examining objects directly—either visually, tactually, or aurally—is something most students can do. Regardless of background knowledge, learning style, or skill, almost all students can notice features of an object, ask questions about it, and generate ideas and connections. Students' responses may differ, but these differences contribute to the conversation rather than detract from it. For example, in the

discussion of the darning egg, one student who was visually oriented commented on the egg's aesthetic properties. Another learner who was interested in carpentry noticed marks that indicated the darning egg was made on a lathe. A student with a pronounced social streak asked whether the tool was used among family, at a workplace, or in a social setting.

## **Principles for Guiding Object-Centered Discussion**

Leveraging the power of objects to encourage student thinking requires a deliberate approach but not necessarily a complicated one. Keep two important principles in mind.

### ***Start with Learners' Observations***

Always begin an object-centered inquiry by encouraging students to look closely and directly at the object and make extensive observations. Keep the object at the center of attention, and as students begin to think more expansively about related ideas and questions, encourage them to continually refer back to their observations as evidence.

Starting with learners' own observations is more than a nicety; it's good learning theory. Many learning theorists believe that learning happens best when people construct new knowledge by actively building on their own ideas and impressions. This constructivist view contrasts with the view that learning is simply a matter of absorbing information. Object-centered learning aligns well with a constructivist viewpoint because students can directly experience objects through the senses. Doing so leads students to generate their own impressions and thus provides them with a basis for building new knowledge. This connects to teaching thinking because one of the primary ways people build on their own impressions is by thinking about them, for example by probing and reflecting on them, purposefully extending them, and using them as a basis for asking questions and constructing interpretations.

### ***Encourage Expansive Thinking***

Help students uncover the complexity of an object by encouraging them to think expansively about it. Once students have made a range of observations, ask students questions or engage them in activities that explicitly require them to build on those observations in a thinking-centered way. For example, encourage students to derive questions from their observations and to form evidence-based interpretations and reasoned judgments. Explicitly urge them to explore different points of view and reach for connections, big ideas, and overarching themes.

## **Trying It Out**

The best way to explore the potential of teaching thinking through objects is simply to choose an object and try it out with students. A cell phone, a running shoe, a quilt, a hoe, a fountain pen—all these objects may surprise you with the windows

they open onto the forces that shape our world. Naturally you'll want to use an object that is related to a topic or subject you're teaching. But part of the power of objects is their capacity to connect broadly to a surprisingly wide array of themes, and although this may sound contrary to good lesson planning, it's best not to make a narrowly precise match between an object and the content you are teaching. Uncovering an object's thematic breadth is part of the point of object-centered learning. A one-to-one correspondence between an object and a specific curricular topic does not necessarily lead to a better discussion.

It's also not important that students have background knowledge about the object prior to looking at it, although they may choose to pursue such information as a result of the inquiry. In fact, it's best to resist providing extensive information before students have had a chance to consider the object on their own, because front-loading information often inhibits people from making their own observations.

If you'd like to give an object-centered conversation more structure, try using the see-think-wonder routine that Ron Ritchhart and David Perkins describe in their article in this issue of *Educational Leadership* (p. 59). This routine provides an excellent framework for rich discussion about an object. Other resources for structuring discussion, and ideas about documenting students' thinking and making it visible, can be found on the Web sites of Project Zero's Visible Thinking ([www.pz.harvard.edu/vt](http://www.pz.harvard.edu/vt)) and Artful Thinking ([www.pz.harvard.edu/at](http://www.pz.harvard.edu/at)) programs.

What kind of objects work best? You can start with almost any human-made object created with a purpose in mind. I've used the example of a darning egg to show how an apparently simple tool can lead to complex reflection on the values and material influences that shape a culture. Other objects—anything from scientific instruments to household items—can be similarly evocative. Paintings, sculptures, photographs, and other works of art are especially rich objects of inquiry. Many of the ideas discussed here originated with the Artful Thinking program, which teaches thinking through looking at art.

There are many reasons why students must learn to think skillfully: so they can make thoughtful life decisions, solve problems creatively, and understand and analyze knowledge in and across the disciplines. To do any of these things well, students need to become adept at thinking things through for themselves. Objects provide an irresistible invitation: Teaching through objects helps students learn how to think things through by uncovering the power of thinking through things.

*Author's note:* Ivan Gaskell, Laurel Ulrich, and others in the Making America group contributed to the ideas in this article. Illustration by Ariel Simon.

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