

Restructuring Curriculum For Critical Thinking

Teachers can teach critical thinking in the context of traditional content and real-life situations if they have the necessary support.

Teachers who have taken the time to understand critical thinking based on their own experience and study have turned away from prepackaged curriculums in favor of infusing critical thinking into the restructured content of their own teaching. The results are often exciting, with variants as numerous as individual teaching styles. Once teachers embark on this road, there is no retreating, and critical thinking eventually permeates teaching as naturally as reading and writing and in ways that no prepackaged curriculum can duplicate.

Teaching for Critical Thinking

Teachers who have worked to infuse critical thinking in their own teaching learn that it is neither esoteric, nor technically difficult. It tends to bring out their best abilities, as well as those of their students. Kevin O'Reilly, for example, is a high school American history teacher from the Hamilton-Wenham School system.¹ To teach about the reliability of sources of information in history, he stages a scuffle in the corridors outside his classroom and then asks student witnesses to tell what happened. He compares the accounts his students give to the variety of accounts that were given about the Battle of Lexington in 1775, which started the Revolutionary War. As these students attempt to determine which of the eyewitnesses gave the most accurate account and reflect on why one historical account is better or worse than another, they are armed with critical skills that they draw on again and again in O'Reilly's classroom. These skills relate to the reli-

ability and accuracy of eyewitnesses, of observation, and of sources of information in general—skills of great importance in our lives outside of the classroom. In the immediate context of their study of the Revolutionary War, O'Reilly's students use these skills to make informed critical judgments about the accuracy of various textbook accounts of the Lexington incident that students who are simply directed to read to "get the facts" cannot make.

O'Reilly's approach—restructuring traditional content to teach for thinking—is not restricted to American history or to high school. Cathy Skowron, a 1st grade teacher in the Provincetown Elementary School, uses the same technique. She follows the tale of Chicken Little with a discussion, prompted by her questioning, of whether the other animals should have trusted Chicken Little, and how they could have determined whether she was a reliable source of information. Many teachers use Chicken Little and other stories only to help students build their listening skills and perhaps their vocabulary. Skowron restructures her use of the story by integrating questions keyed to helping students consider the reliability of sources of information. She bases her lesson on the same critical thinking concept—evaluating sources of information—but the content and structure of her lesson are grade-appropriate. The same skill can be taught, reinforced, and elaborated in many other contexts, subject areas, and at other grade levels.

Skowron also prompts her students to think about whether Chicken Little

herself had good evidence that the sky was falling. Could something else, other than the sky, have hit her on the head? What could it have been, and how can we find out what *causes* something to happen?

Causal explanation and causal inference involve a cluster of critical thinking skills different from those involved in thinking about the reliability of information we get from others or through observation.

Skills that use evidence in reasoning about cause and effect are also crucially important in our everyday lives. For example, judgments about what caused what are essential in assessing advertisers' attempts to influence our purchase of various products.

Causal explanation also plays a role in determining responsibility. A high school English teacher in Groton, Massachusetts, Cathy Peabody, asks her students causal questions as they think about *Romeo and Juliet*. Recognizing that it is a play in which chance, emotion, misunderstanding, and deliberate intent create a tragic causal web, Peabody uses it to help her students develop critical thinking skills. What led to the tragedy of the two lovers? Who, if anyone, was responsible? Starting with these questions, she brings her students to the deeper issues of causality and responsibility. These build on the same inferential skills that Skowron introduced. In addition, Peabody helps students see analogies to their own experience, as O'Reilly does. The use of real-life situations complements and can reinforce thinking skills infused into traditional content. It is especially important in teaching for the transfer of these skills.

In Phyllis Cooper's 4th grade classroom in the Dennis-Yarmouth School system, for example, there is a similar concern about the accurate appraisal of cause and effect. While Cooper, like Skowron, does restructure traditional material, she also focuses her students' attention on specific school problems. Concerned about problems in the school lunchroom, they asked, "What is causing the fact that students are increasingly unable to finish their meals by the end of the period? Why have students been anxious and agitated in the lunchroom over the past two weeks? What can we do about this?" She then helps them to think through and research this issue.

The concept of causal inference that Cooper helps the students use and the standards they develop for good causal judgment are the same as those employed by Peabody and Skowron in other grade-appropriate ways. The important thing is consistent use of the specific skills, the use of the same

terminology, and helping students see the similarities among the various examples that are used to teach for each skill.

Supporting Critical Teaching

What O'Reilly, Skowron, Peabody, and Cooper have done cannot be achieved overnight, but it need not be a lengthy, laborious process. We are all familiar with critical thinking in our daily lives; to teach it we need only to make explicit, broaden, and apply to particular content areas what we already know.

The *conceptual infusion approach*,² as I call it, is a powerful way to bring critical thinking into the classroom. It requires more than committed teachers. It requires a school system willing to provide the support and structure that enables this enterprise to succeed. Teachers need time to evaluate which critical thinking skills are most appropriate for their particular teaching and to develop and try out lessons. They

do this work best in groups. Teachers who incorporate critical thinking into their own teaching in this way model behaviors they would like their students to emulate. □

1. Kevin O'Reilly has published four volumes of lessons in American History including this one in *Critical Thinking in American History* (Critical Thinking Press, Beverly, MA, 1984).

2. See also my paper, "Teaching For Thinking: A Developmental Model for the Infusion of Thinking Skills into Mainstream Instruction," in *Teaching Thinking: Theory into Practice*, Ed. J. Baron and R. Sternberg (W. H. Freeman & Co., New York, 1986), and the forthcoming series of guides *Thinking in the Classroom*, coedited by Robert J. Swartz and David Perkins, Sundance Press, in press.

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