Teaching critical thinking has been a fundamental purpose of education since the time of ancient Greece. But historically, the task to move students from being mere consumers of information to becoming critical thinkers has relied on haphazard methods. In Summit, New Jersey, however, we are systematically teaching formal thinking to students through a Thinking Strand in social studies.

We realized that before students can be taught to think critically, teachers must better understand the thinking process. So we developed a model inservice program based on the philosophy that teachers must become guides or resources in teaching, rather than mere providers of information. This inservice training session enables them to analyze, design, and evaluate a learning experience while they practice their ability to think logically, critically, and imaginatively.

Building our program on the taxonomies of Benjamin Bloom and Norris Sanders, we prepared a comprehensive booklet, "Bloom/Sanders ... The Mind in Action." With this, teachers are led through a series of exercises that enables them to move from the knowledge level of thinking to the higher levels of analysis, synthesis, and evaluation. They write objectives, design activities, and develop questions that they analyze and evaluate through dialogue with their colleagues. Later, they apply their skills in the classrooms so that students learn how to process information to a degree higher than simple recall.

Presently, while all K-12 teachers are undergoing the inservice program.
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only junior high students (7-9) have been formally introduced to the second component of the Thinking Strand—application. In social studies, each grade level is given the opportunity to apply their understanding and to develop their creative and critical reasoning ability through the use of subject related or content related simulations, debates, case studies, and problem-solving activities designed by the teacher. In addition, they receive instruction and practice in developing inductive and deductive reasoning skills, divergent and lateral thinking skills, memorization and problem-solving techniques, and study skills.

We anticipate that within two years all K-12 social studies students will be active participants in the program.

In a 9th grade social studies class, students learning about pluralism may take the role of members of Congress debating whether immigration laws should be more or less stringent. In a study of cities and suburbs, students might design a city, which is later evaluated using given criteria, and then redesigned. After studying the political process unit in grade eight, students are given a hypothetical country for which they design a government.

The following dialogue illustrates a typical class discussion from this unit:

TEACHER: Group One, what did you identify as the biggest problem facing your new government?
KIRBY: Uniting the people.
TEACHER: Why is this important to your government?
KIRBY: Since our country is made up of different groups of people with different cultures, the groups may not get along.
TEACHER: Does anyone else have anything to add?
KIM: They might begin to fight each other because they don't understand the other person's point of view, and they don't want to take the time to try.
TEACHER: What plan do you have for helping the groups better understand each other?
KIM: The government could involve representatives from each group so that they can listen to the needs of all the people.
TEACHER: Anything else?
CONSUELO: Also, more schools could be built to educate children. Children from the different groups could go to school together and become friends, but this would take a long time.
TEACHER: Do you think there is a quicker way?

CONSUELO: Well, if we could find something important for all our people to work for, like protecting our borders from invading armies. Each group would send representatives to serve on an army team. As the team worked together, they would have to depend on each other. Then they would get to know one another better and maybe become friends.

TEACHER: What does this suggest to you about the type of government your country will have?
KIM: It will be a representative government, a strong government which limits people's freedom.
TEACHER: Why do you say that?
KIM: Because the government will control what is taught in schools and will make people join the army, and that limits your freedom.

In these and similar activities, students identify problems; generate all alternatives; discover possible positive, negative, and interesting consequences for each alternative; make decisions; support them with data; and then evaluate them based on established criteria or their own personal values. Basic to each activity is a debriefing that encourages students to analyze and evaluate the strategies they used in solving a given problem or arguing points of debate. Students are asked to reflect on their thinking and explain or substantiate it. Teachers listen, ask clarifying or probing questions when necessary, and build on, extend, and add information when appropriate. Such dialogue encourages students to participate actively and to respect views different from their own.

With the Thinking Strand, our teachers are not merely exposing students to information but are structuring the content and activities so that students can process information more effectively and make better, more rational decisions.