

Tactics for Thinking in Action

By offering educators training in Tactics for Thinking, San Diego County is making the goal of integrating thinking skills into the curriculum a reality.

● Judy, an elementary school resource teacher in the north coastal area of San Diego County, asks her students to remember the related concepts in a scene from *Charlotte's Web*. Her students use "mind-mapping" as a clustering technique to synthesize important concepts.

● In another part of the county near the Mexican border, Dorothy, a special education teacher, helps her middle school students set individual academic and personal goals. These goals will lead students to develop action plans they will monitor daily throughout the school year. Dorothy is setting the stage for successful learning by implementing two "learning-to-learn" skills: power thinking and goal setting.

● As a teacher in the juvenile court school, John is challenged by students with low self-confidence and consequently low academic achievement. He is particularly interested in motivating his students to learn. Late this afternoon he will present them with a list of 10 words and phrases and teach them how to use memory frameworks while studying the information.

These teachers have something in common, something that has expanded their teaching repertoires. Each has attended a 15-hour training series in Tactics for Thinking (Marzano 1986a). Each month, over 120 educators enroll in this high-powered training program presented by the San Diego County Office of Education.

We first became interested in Tactics while the program was being developed by Robert Marzano at the Mid-Continent Regional Educational Laboratory and field-tested by Daisy Arredondo in the Walla Walla, Washington, public schools. We gathered information about all available major programs but maintained our commit-

ment to integrating thinking skills into the curriculum. Although good programs were available—for instance, Philosophy for Children (Lipman 1984), CoRT (de Bono 1984), and Instrumental Enrichment (Feuerstein 1980)—many were developed as supplemental curriculums, focused on certain types of students or content areas, or developed specific thinking skills without elaborating on other ones.

The program that met our requirements was Tactics for Thinking, a com-

prehensive staff development program that could be adapted to specific curriculum needs in local districts. Later published by the Association for Supervision and Curriculum Development, the program integrates thinking into the content areas, develops reasoning skills, and places all of these aspects within the classroom teacher's control.

Commitment Replaces Apprehension

Since August 1986, when we first offered training in Tactics for Thinking to a small but enthusiastic group, over 1,500 teachers, administrators, college instructors, and student teachers representing 43 school districts in southern California have completed the program. Training sessions normally include elementary and secondary teachers, administrators, district office staff, college instructors, and staff development specialists. They represent programs ranging from the gifted and talented to vocational education.

Many teachers arrive anticipating an instructional program with step-by-step activities, worksheets, and answer keys ready for use in the classroom. That misconception is quickly dispelled. Sessions typically open with an introduction to the importance of including thinking skills in the curriculum. Then, by examining their own thinking patterns as adult learners and transferring those patterns into learning steps, the participants are introduced to the metacognitive or "thinking about thinking" process (Costa 1985).

"Teachers learn how to instruct their students in specific cognitive strategies from three categories: learning to learn, content thinking, and reasoning."

One of the earliest challenges facing Tactics trainers is coping with participants' initial feelings of apprehension. They often lack confidence in their own reasoning and problem-solving abilities, and they wonder whether increased demands will be placed on their overloaded instructional day. Sensitive to these fears, trainers are also aware that participants can be overburdened by the amount of information presented and the intensity of the training. At key points, therefore, participants express their responses, discuss personal application of the skills, and identify two or three specific ways to use them. Such cooperative learning groups create a nonthreatening environment, in which confidence emerges, ideas for classroom application appear, and a new commitment to integrating thinking skills in the curricular develops.

Experimenting with New Skills

Participants examine the many uses of 22 interrelated thinking skills that enable students to assume responsibility for their learning and to work cooperatively with others. They learn how to instruct their students in specific cognitive strategies from three categories: learning to learn, content thinking, and reasoning (Marzano and Arredondo 1986b, see fig. 1). Using ideas that appeal to adults, the trainers create a "safe" environment for discussion among educators of all grade levels and content areas.

For example, to model the use of "deep processing" or the creation of a strong multisensory image, two of the trainers act out a well-known historic scene, such as the signing of the Declaration of Independence. Participants are asked to recall the details and to work in pairs to develop a synopsis of the event. The power of mental pictures, multisensory imagery, or "deep processing" is thus compellingly demonstrated.

Further, to illustrate the effectiveness of "memory frameworks," one of the trainers solicits a list of 10 unrelated words from the audience while

the other trainer places the unwritten list into his short-term memory. Participants then learn two or three additional methods for storing and retrieving information using memory frameworks. This activity builds their confidence in learning new information.

Teachers are encouraged to experiment with the new skills in their classrooms. At the beginning of each subsequent session, small groups discuss their applications of selected Tactics. The process is exacting, but the impact is lasting. It becomes clear to everyone that the overt teaching of thinking is possible. Teachers recognize that their expanded repertoires will increase the

scope of their classroom instruction. In addition, Tactics for Thinking offers teachers and administrators a broad conceptual base for understanding thinking without replacing existing thinking skills programs.

More Than Staff Development

Teaching for and about thinking is not traditionally included in teacher education. At the beginning of each Tactics program, we ask participants how much training in thinking skills they have had, and most report none. With experience and practice, though, they begin to experiment with a variety of ways of teaching thinking.

LEARNING-TO-LEARN SKILLS: the purpose of these skills is to communicate to students the need for them to be responsible for their own learning and to provide them with the tools to do so.

- attention control
- deep processing
- memory frameworks
- power thinking
- goal setting
- the responsibility frame

CONTENT THINKING SKILLS: the purpose of these skills is to provide students with the tools for efficiently learning content-area material.

- concept attainment
- concept development
- pattern recognition
- macro-pattern recognition
- synthesizing
- proceduralizing

REASONING SKILLS: the purpose of these skills is to provide students with the tools for performing well at academic tasks not necessarily related to particular content areas.

- analogical reasoning
- extrapolation
- evaluation of evidence
- examination of value
- decision making
- nonlinguistic patterns
- elaboration
- solving everyday problems
- solving academic problems
- invention

Fig. 1. Tactics for Thinking

From: Marzano, R., and D. Arredondo. *Tactics for Thinking*. Alexandria, Va.: Association for Supervision and Curriculum Development, 1986.

For example, during the Iran-Contra hearings last summer, one teacher recognized that many Americans were applying the "evaluation of value" tactic in making judgments about Lieutenant Colonel Oliver North. If North's command of the language and physical appearance on television had been less powerful, public opinion might have been negatively influenced. However, when evaluating the evidence, the Senate Select Committee was testing for credibility, identifying slanted information, and determining whether or not claims were substantiated. Such inquiry modeled two Tactics in an adult context—"examination of value" and "evaluation of evidence." Current events issues are cogent vehicles for guiding students through a process of inquiry.

Relevant experiences, guided practice, and peer discussion are critical elements of Tactics training. More than

staff development, Tactics is an experience in adult learning and intellectual growth.

A Common Language, A Common Goal

A natural fit in San Diego County, Tactics for Thinking has provided an excellent framework for applying thinking skills in a variety of content areas and at different grade levels. Although the participants represent diverse assignments, they leave the training with new skills and renewed confidence. They also take with them a common language to examine thinking and the commitment to work toward the common goal of promoting thinking in our schools. □

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Lean King is Regional Director, and Rita King is Coordinator, Educational Services, San Diego County Office of Education, 6401 Linda Vista Rd., San Diego, CA 92111-7399.

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