

including my spouse, my colleagues, and my friends. I have used it to teach doctors how to educate their patients more effectively, to teach lawyers how to relate more easily to clients, and to help parents better understand their children.

In short, the simplicity of 4MAT is deceiving. Its simplicity is actually evi-

dence of its elegance and universal applicability. In essence, 4MAT is a metaphor for the process of learning itself; the movement from concrete and experiential learning, to abstract and objective thought, to practical application of theory, and, finally, to the development of new theory based on an individual's own life experiences.

As Piaget explained, "to understand is to invent." 4MAT gives us a method for the process of invention. And that makes 4MAT a very good invention in itself. □

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PATRICIA WEBER AND FRED WEBER

## Using 4MAT to Improve Student Presentations

Student presentations went from ho-hum to appealing when their teachers showed them how to use a 4MAT wheel to plan their oral reports.

For more than two months, Megan had worked studiously on her independent study project, gathering information from a multitude of resources, writing an outline, making a mind-map of the facts she discovered, and writing her findings in a written report. She couldn't wait to share her report with the other students in her gifted class, because she knew they were usually captivated by new, interesting ideas.

At last, the day came when Megan stood before the class, ready to share her neatly typed and bound report. As she began to read, however, her teacher saw the looks of intense interest on the faces of Megan's classmates fade into glazed stares as Megan droned on and the silence in the room grew. When she finished, her classmates asked only a few questions and offered scant praise for her superior piece of work.

Talking things over later with her teacher, Megan truly could not understand how her friends could *not* have been interested in the fascinating data she had presented to them. Why

hadn't they been dazzled? Why hadn't they shared her enthusiasm? Why hadn't they even listened?

The teacher felt sad for Megan, knowing that instead of carrying away from this project the joy of learning and the delight of accomplishment, Megan would be left with a sense of failure. She had expended extraordinary effort for a small reward—a superior grade, something she was accustomed to receiving as a matter of

course. She would have much preferred her classmates' praise. And the other students had missed an excellent opportunity to share in Megan's enthusiasm for her topic and to learn something new about a deeply engrossing subject.

### **An Entirely Different Scenario**

Try to imagine the exact opposite of Megan's unhappy scenario. Working as long and as hard as Megan, Nancy had researched the subject of extrasensory perception (ESP). However, when she came to the front of the classroom on the day of her presentation, instead of starting to read from her paper, she burst in to song!

Every head in the room looked up. Students kept their eyes glued to Nancy and strained their ears to capture her words. Everyone was eager to see what she'd do next, and she didn't fail to surprise them. Throughout her presentation, Nancy kept each student engaged, involved, and participating. When she finished, the group applauded heartily. All day, her classmates continued to tell her how much they

**Borrowing the melodies of Bach, Beethoven, and Mozart from her piano lesson book, Nancy was *singing* the basic facts about her topic.**

### Grade 5 Lesson: Stonehenge

This sample lesson, developed by two 5th graders, included activities from all four quadrants.

**Quadrant One.** As part of their presentation, Scott and Tom asked their classmates to step out into the hall. The boys asked some of the students to stand on markings they had placed on the floor before their lesson. The rest of the students were asked to note the distance between the students serving as markers, then visualize standing that section of the floor on end. That measure, Scott and Tom informed them, was the height of the columns at Stonehenge. They proceeded to use the same strategy to demonstrate the measurements of the horizontal stones placed on top between the columns. With this simple demonstration, Scott and Tom followed the Quadrant One procedure of "hooking" their audience to get them interested in their topic.

When the amazed class reassembled in the room, the boys asked for theories as to how Stonehenge came to be and what its purpose was. The students worked in small brainstorm groups, then reconvened to discuss their various theories. Warned to keep an open mind, they were assured they could revise their theories after hearing the rest of the presentation and learning the facts.

**Quadrant Two.** Scott and Tom asked the class what other things Stonehenge brought to their minds. They then used a slide projector to take the class on an imaginary tour of Stonehenge. A huge poster with nicely mounted pictures of Stonehenge from several angles further stimulated conversation. Then the presenters taught the facts, using maps, diagrams, transparencies, and printed computer fact sheets.

**Quadrant Three.** The class studied the fact sheets, which the boys had mounted on colored paper to form booklets. This was followed by a test to see how much they remembered. Students next revised their theories and gave their reasons for doing so. They also drew pictures illustrating their thoughts about the purpose of Stonehenge and the methods the people of that time might have used to build it.

**Quadrant Four.** Scott and Tom presented their classmates with a nicely made board game they had prepared to help them remember the facts about Stonehenge. As they finished their drawings, students met in small groups to play the game. Small groups also met to plan an itinerary for a tour of the structure. The last activity involved sharing the pictures and tour plans and enjoying the creativity of each class member.

had enjoyed her report *and* how much they had learned. Several even went to the library to look for more material on the subject. Obviously, Nancy would remember her presentation with feelings very different from Megan's.

#### Teaching 4MAT to Students

Happily, our recent efforts with two groups of gifted 5th and 7th grade students show there is a better way for students to present the results of their research—teach them to use the 4MAT System! When we analyzed the problems attending student presentations, it suddenly became clear that only students with Quadrant Two learning styles were comfortable listening to an oral report. The rest of the students found it hard to maintain interest be-

cause the activity fell outside their learning style comfort levels. This realization opened up a world of ideas for using the 4MAT System with students. We began to hold planning sessions which involved creating a 4MAT "wheel" for instructing the students in the use of the system.<sup>1</sup> (For a complete description of the 4MAT System, see pp. 31–37, this issue.)

We began our project by asking students to brainstorm the components of an ideal learning situation, based on their classroom experiences. Students shared these brainstorm lists in small groups, discussing similarities and differences in various learning situations. We also asked them to apply the lists to their feelings about their past experiences with independent study presentations. Even the 5th grade students, we found, were perceptive in assessing learning situations. They expressed definite and accurate opinions about which factors promote or prohibit learning. Next we administered a learning styles survey.<sup>2</sup> Then we guided students in scoring their own surveys and in plotting the results on a graph. After this, a lively discussion led them to an awareness of the four basic learning styles described in the 4MAT system. They also saw how the factors identified in the brainstorm were related to style.

Almost immediately, some students saw a connection between learning style and conflict with parents and peers. They quickly used these insights to generate possible solutions to the communication problems they frequently encountered. Some planned to assess their parents and friends informally by asking them some of the questions from the survey and trying to determine how their differences or similarities in style might lead to difficulty in getting along and working together.

At this point, we gave the students direct instruction in the four basic styles, referring to a 4MAT wheel. During the lesson, they wrote the essential characteristics of each style onto a copy of the wheel, discussed each, and listed examples. They also named teachers, friends, relatives, and famous people whom they considered prime examples of each style.

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### Preparing the Presentation

Before students could put their learning styles knowledge to use, they needed to complete their research assignments. They had selected topics of deep personal interest. They researched their topics, following the usual information gathering and recording techniques.

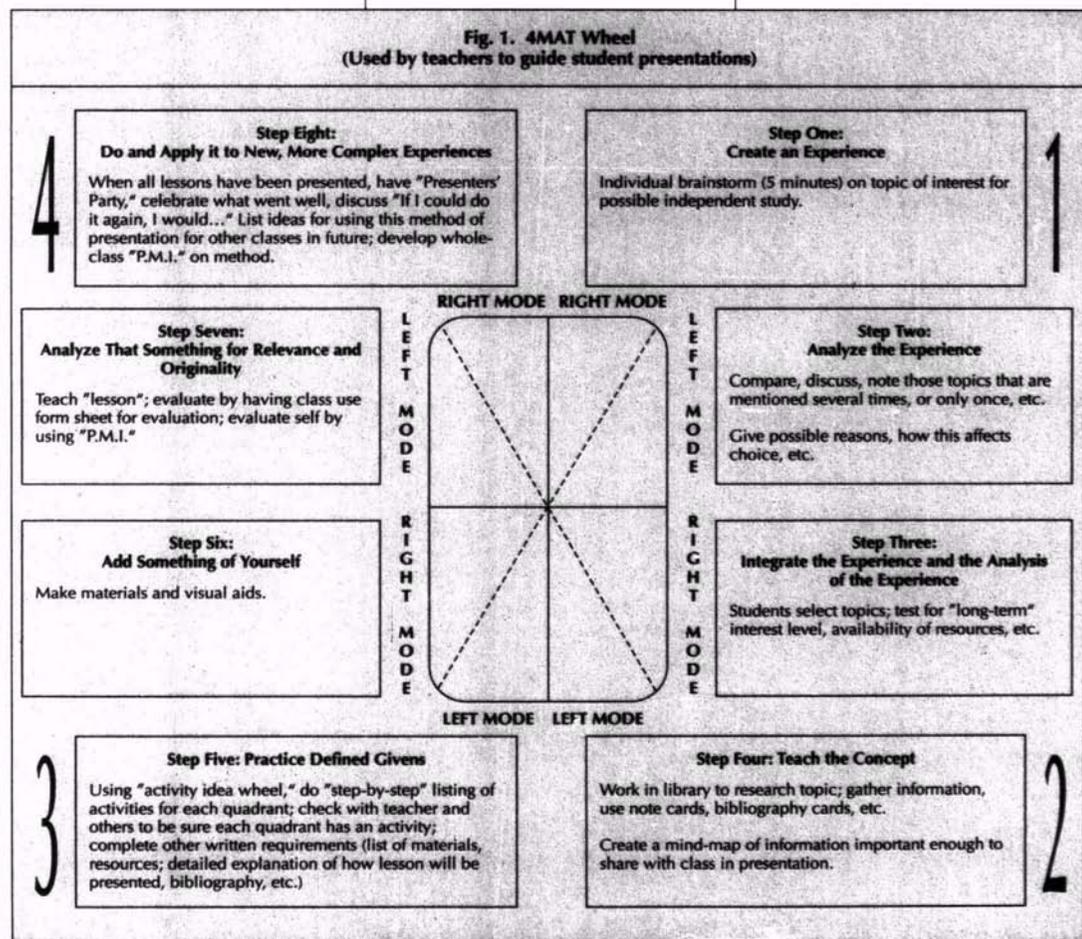
Finally, they were ready to incorporate their awareness of learning styles into planning a lesson to teach to the class. We provided the students with written requirements for the project: they must use a 4MAT planning wheel

to design their lessons, write a detailed explanation of how the lesson would proceed, and provide a list of materials and visuals to be used in the presentation, as well as a bibliography of resources used. Students continued their research as an outside assignment but were also given several class periods for guided research in the school library.

As the information gathering stage was nearing completion, we prepared the students for presenting their lessons. Each student completed a mind-map to organize facts and decide which

information was most important to include in the lesson, which could be left out entirely, and which would be nice to include if there was enough time. After prioritizing the information, each student or group began to use a comprehensive 4MAT wheel to plan the lesson (see fig. 1). Although the 4MAT wheel is actually divided into eight parts—two for each quadrant to provide right- and left-brain activities (as in fig. 1)—the students used a wheel with only the four basic quadrants (see fig. 2). However, they had previously learned about the functions of each brain hemisphere, so

Fig. 1. 4MAT Wheel  
(Used by teachers to guide student presentations)



**Almost immediately, some students saw a connection between learning style and conflict with parents and peers.**



*Teachers held individual conferences with students to guide them in using the 4MAT wheel to achieve a balance of activities for their presentations*

*Photograph by Betty Buchgrani, Memphis, Tennessee*

the teachers guided them in achieving a balance between right-and left-brain activities. This step required extra teacher intervention, and we held many individual conferences as students started to fill in their wheel with activity ideas. Before they could do this effectively, however, teachers guided them in brainstorming

the types of activities appropriate to each quadrant on a simplified wheel (see fig. 2).

When their simplified wheels reached the rough draft stage, students shared with others, to "test the waters" so they could discover weak spots or ambiguous areas. Some tried out their plans at home or with friends, revising and refining as necessary.

Following the planning phase, students prepared visual aids, organized materials, and planned for adding videos, music tapes, and other extras to their lesson. Some made worksheets, printed fact sheets, designed posters, or drew maps.

When at last each student or group was ready to present, we gave their class members blank wheels and told them to assess each activity by writing a brief note in the appropriate quadrant as the presentation progressed. At the end of each lesson, students compared their response wheels with the ones prepared by the presenters; they identified which activities they had placed correctly and discussed reasons for disagreement on the placements on which they differed. Then the teachers and each student completed formal evaluation sheets, which were given to the presenters. Each presenter also used a "P.M.I." (Plus, Minus, Interesting)<sup>3</sup> sheet as a personal evaluation.

The exercise that required students to use the blank wheel to categorize

### **Grade 7 Presentation: Extrasensory Perception**

Two 7th graders teamed up to present their information to the class, using appropriate activities from the four quadrants.

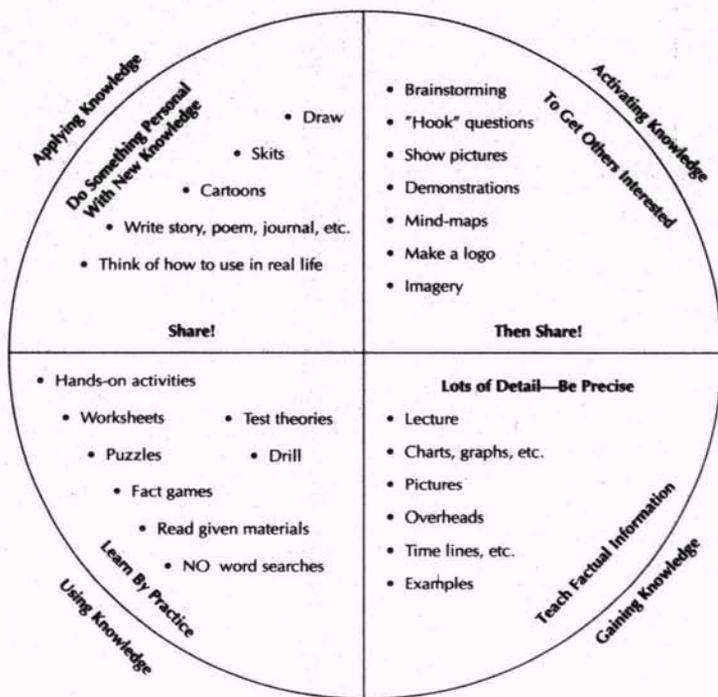
**Quadrant One.** Karen and Phil began their presentation by teaching the class a song they had written about extrasensory perception (ESP). Using an overhead projector to display the lyrics on the classroom wall, they made sure everybody sang, including the teacher. With a rousing cheerleader-type chorus, the song got the group off to quite a start.

**Quadrant Two.** After the song, Karen and Phil asked their classmates for their ideas about ESP: what they had heard and what they actually believed. They had taped a video to explain the facts about the topic, and they showed this to the class. They also read pertinent passages from a resource book and presented part of a TV program showing several psychics' demonstrations of ESP. They finished with a piece by the well-known Amazing Randi, who clearly showed the fraudulent nature of most known reports of ESP. They then demonstrated various methods that have been used to test people for ESP, including pictures, a pendulum, and the Zenner cards.

**Quadrant Three.** Karen and Phil reinforced the information they had presented in Quadrant Two, using a packet of articles, biographies of well-known people in the field, vocabulary quizzes; reports of telepathy experiments performed by Upton Sinclair and his wife, stories of hoaxes, puzzles, and a 3-D logic puzzle that they designed.

**Quadrant Four.** Returning to their video, Karen and Phil gave their conclusions and interpretations, then invited the class to do the same.

Fig. 2. Student-Generated List of Possible Activities



the activities assured their attentiveness during the presentations. They also knew they would be expected to sign their name to an evaluation sheet after the presentations were finished. But these measures were not really needed; the presentations were so much more exciting than the usual fare that there were no nappers in those classes!

When all students had completed their presentations, we held a "Presenters' Party" to celebrate their accomplishments and to rejoice in the best use of each other's talents. The unit concluded when students completed the open-ended statement, "If I

could do it again, I would . . ." listing ideas for using this style of presentation in other classes in the future. Then the whole class filled out P.M.I. sheets to allow for reflection on the entire experience.

Many of the student-planned activities surprised and delighted the class. Some of these included using clay to create new statues for Easter Island, aliens, and UFO's; providing a piece of a Loch Ness Monster puzzle each time a question was answered correctly; creating homemade videos and tape recordings; identifying constellations while in a dark closet with a "star machine;" creating variations of T.V.

**Every educator needs a source of motivation from time to time to recreate the flame of dedication to the field.**

games such as Jeopardy, Password, and Memory; and giving information on the location of Atlantis so that the class could try to locate it on the map. (For sample lessons for the 5th grade and the 7th grade classes, see boxes.)

### Assessing the Results

All in all, we find the sight of active, engaged learners who are busily involved throughout an entire presentation a far more satisfactory view than the slumped-over bodies we used to see. We feel no hesitation in saying that we will continue to use this approach in the future, although this system does require additional time in the classroom. Helping students get materials, learn to use technical equipment, and produce visuals also requires extra teaching time and energy. But the payoff in eager student partic-

ipation is its own reward.

Of course, we had some "down times" while working on the projects, and not every part of every presentation was a sparkler. But the overall high quality of both the research and the presentations, the ease with which the students accepted 4MAT, the energy they displayed in discovering ways to improve their reporting methods, and the highly increased level of involvement on the part of *all* class members in these interdisciplinary activities indicate that this fledgling effort certainly bears further trial and investigation.

Every educator needs a source of motivation from time to time to recreate the flame of dedication to the field. Ours is the memory of a young girl's clear-toned voice, singing her combination of Mozart, Bach, and Beethoven in an effort to share her information. This

memory continues to be our inspiration in our quest to find a better way. □

<sup>1</sup>Interested persons can obtain these and other forms created by the authors by writing to them at their addresses, below.

<sup>2</sup>We used the Student Learning Styles survey developed by the Wichita Unified School District, Staff Development Center, 3030 S. Osage, Wichita, KS 67217.

<sup>3</sup>The "P.M.I." is a technique designed by Edward deBono. See deBono, E. (1973). *The CoRT Program*. Elmsford, N.Y.: Perma-gon Press.

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