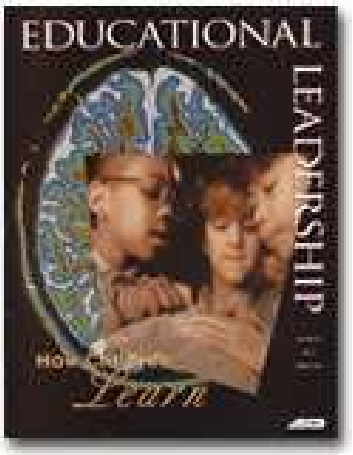
Educational Leadership



March 1997 | Volume **54** | Number **6**
How Children Learn Pages 46-51

A Tale of Four Learners: 4MAT's Learning Styles

Bernice McCarthy

The 4MAT System honors the distinctive style that each student brings to the classroom, while helping each student grow by mastering the entire cycle of learning styles.

A young man at a midwestern middle school said of his social studies teacher, "She doesn't label us, and she helps us do all kinds of things." That student expressed very simply my evolving understanding of style since I created the 4MAT System in 1979. The way one perceives reality and reacts to it forms a pattern over time. This pattern comes to dominate the way one integrates ideas, skills, and information about people and the way one adapts knowledge and forms meaning.

But to learn successfully, a student also needs expertise in other learning styles; together these styles form a *natural cycle of learning*. That middle school teacher apparently honored the unique style that each student brought to her classroom, while helping each one do some stretching and master all the ways of learning.

Following are true stories about four types of learners. They illustrate how students with different learning styles experience school and why we must create opportunities for diverse learning experiences for every child.

Linda: The Type 1 Learner

Linda was in 6th grade when she hit the wall in math. She had loved school up until then. Her teachers and classmates agreed that her poetry was quite good, and her poems often appeared in local publications. But math was a problem. She couldn't connect it to anything—she simply could not see the patterns. Her teachers were not pleased with her and she longed to please them.

Linda went on to college, and when she was a junior, a new professor arrived on campus. The day before Linda's statistics class began, she met him in the hallway. He said, "Oh, you're Linda; I've been reading your poetry. You are going to do very well in statistics."

She looked at him in amazement. "How can you say that? I have such difficulty in all my math classes."

He smiled and answered, "I can tell from your poetry that you understand symmetry. Statistics is about symmetry. As a matter of fact, statistics is the poetry of math." Linda went on to earn an *A* in that class. Her professor had connected statistics to her life and showed her the patterns (McCarthy 1996).

Linda is a *Type 1 learner*—the highly imaginative student who favors *feeling and reflecting*. These learners

- Are at home with their feelings, people-oriented, outstanding observers of people, great listeners and nurturers, and committed to making the world a better place.
- Prefer to learn by talking about experiences; listening and watching quietly, then responding to others and discussing ideas; asking questions; brainstorming; and examining relationships. They work well in groups or teams but also enjoy reading quietly.
- Experience difficulty with long verbal explanations, with giving oral presentations, and with memorizing large chunks of abstract information. They dislike confusion or conflict, environments where mistakes are openly criticized, or where they cannot discuss their perceptions.
- Have a cognitive style that puts perception before judgment, subjective knowledge before objective facts, and reflection before action. They prefer to make decisions based on feeling, are visual/auditory/kinesthetic, and experiential before conceptual.

As a Type 1 learner, Linda needed to connect math to her real life, to know why it was useful as a way of thinking and a way of formulating problems and solutions. She also needed her teachers to believe in her and to spend time with and nurture her.

Marcus: The Type 2 Learner

Marcus was in 1st grade, and he loved school. Everything he longed for was present there—the teacher's loving interest, the thrill of deciphering the symbols that meant things, the things he could touch and feel, the addition problems that the teacher wrote on the chalkboard. He could always see the answers. His excitement was like that of the basketball player who knows that if he can just get his hands on the ball, he can sink it. Each question became an exciting foray into even more questions. And as his reading improved rapidly, he could not get enough of books. He welcomed the words and ideas of each new writer. He felt confident; he knew he belonged (McCarthy 1996).

Marcus is a ***Type 2 learner***—the analytic student who favors *reflecting and thinking*. These learners

- Have a knowledge-oriented style; are outstanding at conceptualizing material; analyze and classify their experiences and organize ideas; are highly organized and at home with details and data; are good at step-by-step tasks; are fascinated with structure; believe in their ability to understand; and are committed to making the world more lucid.
- Prefer to learn through lectures and objective explanations, by working independently and systematically, and by reading and exchanging ideas.
- Experience difficulty in noisy, high-activity environments, ambiguous situations, and working in groups. They also have trouble with open-ended assignments, as well as with presentations, role-playing, and nonsequential instructions. They have difficulty talking about feelings as well.
- Have a cognitive style that is objective thinking, reflection before action, impersonal, auditory/visual/kinesthetic, conceptual over experiential. They tend to make judgments first, then support them with their perceptions.

As a Type 2 learner, Marcus found school an absolute joy. Testing, so frightening to Linda, was a tonic for him, a chance to prove he could do it. Because he was naturally verbal and school is mostly a verbal challenge, he was—and continues to be—successful.

Jimmy: The Type 3 Learner

When Jimmy was in 2nd grade he did not like to read, and that made school difficult. He did enjoy having others read to him, and his younger brother, a 1st grader, read him stories every night. Jimmy did excel in math and art. He loved to work alone on projects and never wanted help. When he was asked to illustrate a story or build something to depict a math concept, he approached the task excitedly. He was happiest when he could solve a problem by creating a three-dimensional solution.

Unfortunately, Jimmy had a rigid teacher whose timing was always different from his own. Jimmy either finished too fast or took too long when he got really interested in a project. Once his teacher said in exasperation, "I didn't say you had to do your best work,

Jimmy, just get it done!" When Jimmy's family bought a new VCR, they read the directions aloud to figure out how it worked. Jimmy stepped up and simply made it work. His reading problem continued into 3rd grade when he caught up with the others, but he never let it get him down—he was simply too busy doing other kinds of things (McCarthy 1996).

Jimmy is a *Type 3 learner*—the common-sense learner who favors *thinking and doing.* These learners

- Are great problem solvers and are drawn to how things work. They are at home with tasks and deadlines, are productive and committed to making the world work better, and they believe in their ability to get the job done. They are also active and need opportunities to move around.
- Prefer to learn through active problem solving; step-by-step procedures; touching, manipulating, and constructing; demonstrations; experimentation and tinkering; and competition.
- Experience difficulty when reading is the primary means of learning and whenever they cannot physically test what they are told. They have trouble with verbal complexity, paradoxes or unclear choices, subtle relationships, and open-ended academic tasks. They also have difficulty expressing feelings.
- Have a cognitive style that features objective thinking and facts over ideas, action before reflection, and judgment before perception. Their style is impersonal and kinesthetic/auditory/visual.

As a Type 3 learner, Jimmy needed to work things out in his own way, to create unique solutions to problems, and, most of all, to show what he learned by doing something concrete with it. His verbal skills did not kick in until well into the 3rd grade. Although this is not unusual with highly spatial learners, teachers treated it as an aberration. School was simply too regimented and too verbal for Jimmy. What saved him was his focus on his own learning.

Leah: The Type 4 Learner

When Leah was a high school freshman, she liked her new friends and some of her teachers. But she had a fierce need to learn, and school was not nearly exciting enough for her. She found so much of it deadening—memorizing endless facts that were totally irrelevant to her life. Leah had a wonderful spontaneity, and when it took hold of her, she focused so intensely that time became meaningless. Her teachers came to regard this spontaneity as a liability that was taking her away from the things she needed to know.

At first Leah persevered. Instead of preparing a juvenile justice report based on her social studies text, she asked to be allowed to go to juvenile court and see for herself, and then present her findings in a skit. Her teachers seldom agreed to her proposals, and after a while Leah stopped trying. She had natural leadership talent, which she expressed through her extracurricular activities—the one part of school she came to love. She

graduated, but has believed ever since then that real learning does not happen in school (McCarthy 1996).

Leah is a *Type 4 learner*—the dynamic learner who favors *creating and acting*. These learners

- Are proud of their subjectivity, at home with ambiguity and change, and great risk takers and entrepreneurs. They act to extend and enrich their experiences and to challenge the boundaries of their worlds for the sake of growth and renewal, and they believe in their ability to influence what happens. They initiate learning by looking for unique aspects of the information to learn and they sustain learning through trial and error.
- Prefer to learn by self-discovery, talking, convincing others, looking for creative solutions to problems, and engaging in free flights of ideas. They also like to work independently and tackle open-ended academic tasks with lots of options, paradox, or subtle relationships. Their interpersonal skills are good.
- Experience difficulty with rigid routines when they are not allowed to question. They also have trouble with visual complexity, methodical tasks, time management, and absolutes.
- Have a cognitive style that is perception first with slight attention to judgment, subjective, relational, action-oriented, kinesthetic/auditory/visual, and experiential over conceptual.

Leah found learning for school's sake incomprehensible. As in Jimmy's case, doing was crucial to her approach. She preferred interviewing over reading, going to court to see for herself, exploring instead of hearing how others see things.

Perceiving and Processing

In any classroom, Linda, Marcus, Jimmy, Leah, and their many shades and varieties sit before the teacher—challenging and waiting to be challenged. The frustrating question is: Why are some learners honored in our schools and others ignored, discouraged, or even frowned upon? Why did Marcus fare so well, while Linda, Jimmy, and Leah struggled to be accepted?

In my definition of learning, the learner makes meaning by moving through a natural cycle—a movement from feeling to reflecting to thinking and, finally, to acting. This cycle results from the interplay of two separate dimensions—perceiving and processing (Kolb 1984).

In *perceiving*, we take in what happens to us by (1) *feeling*, as we grasp our experience, and then by (2) *thinking*, as we begin to separate ourselves from the experience and name and classify it. The resulting concepts become our way of interpreting our world (Kegan 1982).

We also *process* experiences in two ways: by (1) *reflecting* on them, and then by (2) *acting* on those reflections. We also try things; we tinker.

The places in this cycle that we find most comfortable—where we function with natural ease and grace—are our learning preferences or styles, the "spins" we put on learning.

Unfortunately, schools tend to honor only one aspect of perceiving—*thinking*. This is very tough on kids whose approach to learning is predominately *feeling*. Linda and Leah, like many other Type 1 and 4 learners—both male and female—are naturals on the feeling end of experience. Jimmy and Marcus, the Type 2 and 3 learners, favor the thinking end.

As with feeling and thinking, reflecting and acting need to be in balance. But our schools favor reflecting. Marcus excelled at that, while both Jimmy and Leah needed to act. The lack of hands-on learning created difficulties for both of them.

Rounding the Learning Cycle

Even as I define styles in my work, I caution that we must be wary of labels. Over time, and with experience, practice, and encouragement, students become comfortable with learning styles that aren't naturally their own. Successful learners, in fact, develop multiple styles.

The 4MAT framework is designed to help students gain expertise in every learning style. We design lesson units as cycles built around core concepts, each of which incorporates *experiencing* (Type 1), *conceptualizing* (Type 2), *applying* (Type 3), and *creating* (Type 4). The styles answer the questions:

- *Why* do I need to know this? (the personal meaning of Type 1).
- *What* exactly is this content or skill? (the conceptual understanding of Type 2).
- *How* will I use this in my life (the real-life skills of Type 3).
- *If* I do use this, what possibilities will it create? (the unique adaptations of Type 4).

Had the teachers of Linda, Marcus, Jimmy, and Leah used the entire cycle of learning styles, including those areas in which each student needed to stretch, all four students would have acquired expertise in all facets of the cycle. They would have made personal connections to the learning, examined expert knowledge, used what they were learning to solve problems, and come up with new ways to apply the learning—both personally and in the world at large. (As it happened, the students learned to do these things on their own.)

Using Both Sides of the Brain

In addressing the various learning styles, the 4MAT System also incorporates elements of brain research—in particular, the different ways that the right and left hemispheres of the

cerebral cortex process information (Benson 1985, McCarthy 1981 and 1987, Sylwester 1995, Wittrock 1985). I call these contrasting mental operations the Left and Right Modes.

The *Left Mode* is analytical and knows those things we can describe with precision. It examines cause and effect, breaks things down into parts and categorizes them, seeks and uses language and symbols, abstracts experience for comprehension, generates theory, and creates models. It is sequential and works in time.

The Right Mode knows more than it can tell, filling in gaps and imagining. It is intuitive. It senses feelings; forms images and mental combinations; and seeks and uses patterns, relationships, and connections. It manipulates form, distance, and space.

Excellence and higher-order thinking demand that we honor both sides of the brain, teaching interactively with hands-on, real-life, messy problem solving. Learners speak in words, signs, symbols, movement, and through music. The more voices students master, the more new learning they will do. Unfortunately, however, teachers persist in lecturing and using logical, sequential problem solving most of the time.

Assessing the Whole Student

In assessing student performance, traditional methods work fairly well for Type 2 learners, who like to prove themselves, and Type 3 learners, who do well on tests in general. Traditional testing doesn't work as well for Types 1 and 4, however. Type 1 learners have difficulty in formal testing situations, especially when tests are timed and call for precise answers. Type 4 learners have trouble doing things by the book and with absolutes and rigid routines when they are not allowed to ask questions.

Further, students change roles as they move through the learning cycle. Tests that require students to recall facts obviously do not reflect the subtlety of these changes.

We need assessment tools that help us understand the whole person. We must assess the students' ability to picture the concept, to experiment with the idea, to combine skills in order to solve complex problems, to edit and refine their work, and to adapt and integrate learning. We need to know how students are connecting information to their own experiences, how they are blending expert knowledge with their own, and how creative they are. We also need some way of measuring how students reflect on material, conceptualize, and represent what they have learned through various kinds of performances.

Aiming for Balance and Wholeness

Successful learning is a continuous, cyclical, lifelong process of differentiating and integrating these personal modes of adaptation. Teachers do not need to label learners according to their style; they need to help them work for balance and wholeness. Leah

needs to learn the ways of Marcus; Jimmy needs Linda's ways. And all learners need encouragement to grow.

Learning is both reflective and active, verbal and nonverbal, concrete and abstract, head and heart. The teacher must use many instructional methods that are personally meaningful to each student. The more students can travel the cycle, the better they can move to higher-order thinking.

As a final note, what became of the students I described earlier? Linda directs the management division of a major human resources consulting firm. Marcus, a former professor of statistics at a prestigious university, is now president of a research firm. Jimmy will be a senior in high school this fall. He scored 100 percent on the Illinois State Math Achievement Test and achieved *cum laude* in the International Latin Exam. He also had his art portfolio favorably reviewed by the Art Institute of Chicago. And Leah? Leah is a pseudonym for the author of this article.

References

Benson, D.F. (1985). "Language in the Left Hemisphere." In *The Dual Brain: Hemispheric Specialization in Humans*, edited by D.F. Benson and E. Zaidel. New York: Guilford Press.

Kegan, R. (1982). *The Evolving Self: Problems and Process in Human Development*. Cambridge, Mass.: Harvard University Press.

Kolb, D.A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, N.J.: Prentice-Hall.

McCarthy, B. (1981, 1987). *The 4MAT System: Teaching to Learning Styles with Right/Left Mode Techniques*. Barrington, Ill.: Excel, Inc.

McCarthy, B. (1996). *About Learning*. Barrington, Ill.: Excel, Inc.

Sylwester, R. (1995). *A Celebration of Neurons: An Educator's Guide to the Human Brain*. Alexandria, Va.: ASCD.

Wittrock, M.C. (1985). "Education and Recent Neuropsychological and Cognitive Research." In *The Dual Brain: Hemispheric Specialization in Humans*, edited by D.F. Benson and E. Zaidel. New York: Guilford Press.

Bernice McCarthy is President of Excel, Inc., 23385 Old Barrington Rd., Barrington, IL 60010 (**Error! Hyperlink reference not valid.**).

漢語教學設計四大步驟 (Structure of Teaching, Lin Domizio, 2004)