

Operation Breakthrough for Continuous Self-Systems Improvement

*A comprehensive approach to teacher preparation
involving the development of the five habits of the
agile learner*

By Barbara K. Given

Unless individuals understand how to learn and how to work, chances are great they will be underemployed or unemployed. In record numbers, high school graduates are failing to obtain and sustain employment because they lack basic social, academic, and problem-solving skills. For example, the New York City Telephone Company screened 57,000 applicants before finding 2,100 to fill entry-level positions. Further, 80% of the employers interviewed in a national survey expressed concern about lack of good work ethics and appropriate social behaviors such as reliability, positive attitude, pleasant appearance, and a pleasing personality in their applicants (National Center on Education and the Economy, 1990). For this reason, preparing the nation's children for life-long learning and success in an everchanging marketplace is a critical issue.

Of paramount concern to teachers as well as employers is students' lack of preparation for technical reading, writing, speaking, and listening (Daggett, 1991). A combination of limited technical training in language arts with inappropriate workplace behaviors

results in a serious drain on the nation's ability to compete in a global economy (Reich, 1991). Teachers are aware of this deficit and want to make a positive difference in the lives of their students. However, today's teachers are under pressure from public criticism of teaching methods, discipline techniques, and the supposed failure to motivate students toward higher academic achievement (Farber, 1991). These pressures, coupled with the classroom stresses manifested by unmotivated students—many of whom have juvenile court records of crime and violence (Mercurio, 1993), dysfunctional learning disabilities, and behavior disorders, may result in a low sense of professional accomplishment. This is especially true when students withdraw, disrupt, distract, and engage in verbal or behavioral conflict with teachers and one another. When limited planning time and a wide range of student needs are added to these circumstances, teachers may experience high levels of frustration, stress, and disenchantment with their chosen profession.

As coordinator of a preparation program for students with learning disabilities, these issues caused me to

reflect on our traditional teacher training program. Eleven years ago, as my concerns grew, I began working with groups of 4 to 5 adolescents and young adults to better understand their learning and motivational needs. Groups met for 2 to 3 hours once or twice a week for 14 weeks on campus. All participants had been referred for evaluation and/or academic tutoring in the university's Education Study Center. All had identified learning disabilities or serious academic difficulties. From these individuals, I learned much about what worked and what didn't regarding teaching critical thinking skills, learning strategies instruction, and, most importantly, task engagement. I relearned how important sincere interest and feedback are regarding the individual's ideas, thought processes, and alternative ways of problem solving. Even though most of the students were willing participants, there were always some who made their negative views clear.

Over the next 3 years, my growth in this learning process complemented my continuing university teaching, because I could use my firsthand experiences as examples for graduate students. It became clear to me that

perhaps the biggest problem with teaching is teacher education; I had been spending far too much time preparing teacher trainees how to teach academics and not enough time on teaching about the human elements of the learning process. This realization did not occur as a single event, but as a growing awareness that graduate students and adolescents all need to learn the same basic life skills—goal setting; collaboration; thinking skills and learning strategies; self-regulation, including time and stress management; and self-evaluation for decision making. We could continue to produce competent teachers with our traditional model, but with attention to these basic life skills, we could go beyond initial competence and make a difference for teachers and their students by preparing them for life-long learning.

Becoming director of the Education Study Center provided me with more opportunities to explore possible teacher training changes. With two former students as staff, we formed a team, sharing a common vision of how to involve graduate students in a new kind of learning and teaching experience. Interns worked with small groups of children, adolescents, or young adults, as I had done. Feedback was reciprocal; the staff guided and supported interns while they and their "clients" shared what worked and what needed further development. Each semester, more pieces fell into place. Eventually, there evolved a comprehensive approach to the teaching and learning process. We had broken through our own resistance to change.

In the summer of 1990, we were ready to put our work to the test. We believed that if our approach were viable, it would be effective with adolescents who were learning resistant. Fliers were distributed and 24 adolescents ranging in age from 11 to 17 were convinced by their parents to attend. All were presented as unmotivated, failing academically, and difficult behaviorally. Most had received serious disciplinary action at school, but only the 11-year-old had a juvenile court record. The summer was highly successful for the students, but extremely exhausting for the eight interns and me. We learned that we needed to reduce the number of hours per day from 6 to 3, simplify the strategies, emphasize kinesthetic learning, and maintain an informal environment. We con-

tinued to revise and implement each revision with subsequent groups of youngsters over the next 3 years. By the summer of 1993, 69 children and adolescents and 18 interns were participating in the Operation Breakthrough program. More than 75% of the youngsters' parents attended three parent meetings, and parental requests for the program continue to grow. As new teachers or field-based interns for students with learning disabilities, former Operation Breakthrough interns rated their experiences as strong or very strong preparation for teaching. Follow-up from parents indicates that the youngsters, many of whom initially participated against their wishes, asked if they could return the following summer. All formative data continue to guide our decision making as we address teacher needs and prepare educators for today's classroom environment.

Operation Breakthrough

A profile of desired learning and work habits that are necessary for the production of an agile workforce emerged from a synthesis of research, theory, and best practice—one that keeps pace with or leads transition and change in the 21st century. Thus, Operation Breakthrough provided impetus for systemically identifying five habits of agile learning for self-systems improvement:

1. *Self-empowered learning*: to recognize intrinsic motivators and set goals for personal success;
2. *Collaborative learning*: to work interdependently in partnerships and in quality teaching and learning teams for shared problem solving;
3. *Intentional learning*: to gain control of the learning process by integrating language arts strategies and learning how to learn;
4. *Self-managed learning*: to overcome stress and to keep personal behaviors in alignment with goal achievement; and
5. *Reflective learning*: to monitor and evaluate thoughts and actions that occur within specific environments under specific circumstances, to plan future actions, and to predict outcomes.

Self-Empowered Learning

Goal Setting. A major empowering activity is determining what individual teachers and students want from their shared classroom experiences. Without this determination, many inaccurate assumptions are made and subsequent disappointments experienced. When frank discussions about expectations are held, the shared goal-setting process is put into motion. Both on a personal basis and as a group, the goal-setting process begins with the end in mind (Covey, 1990) and moves to specific thoughts and behaviors that must be satisfied on a daily basis if the more distant goals are to be realized (King, 1991). Once group goals are established, visualizations of cognitive and physical actions that move the individual and group toward or away from the desired results are specified by the students. For example, the group may decide to implement only one class rule: Make good decisions. Class discussions can be used to determine when behaviors follow this rule and when they do not.

Class goal setting can be followed by personal determinations of what individuals want for themselves on a broader basis, such as learning to play a musical instrument, getting a part-time job, earning passing grades, developing positive attitudes, and so forth. Deliberate activities can help students identify what resources they will need, what obstacles they might encounter, how they can prepare to overcome anticipated obstacles, who can serve as their cheering squad, and on whom they can depend to coach them along the way to goal attainment (King, 1991). Also, students can be guided into developing a sequence of specific steps and a record-keeping system for self-monitoring. With guidance, students can translate rather nebulous dreams into a plan for immediate action. Personal goal setting helps establish linkages between curricular and extracurricular ambitions.

Brain Behavior. Goal setting fosters thoughts and behaviors that impact brain activity. Research is quite clear that generation of the brain's glial cells and dendrites is directly related to experience (Diamond, 1988) and that specific neurotransmitters are produced by specific thought patterns (Chopra, 1990). Thus, emotional and physical states enhance or retard the

learning process by the neurotransmitters produced. Thoughts can change the brain's chemistry in 1/100th of a second (Chopra, 1990); thus, it behooves us to know how to transform debilitating thoughts into positive ones. Activities and exercises to change self-defeating thoughts about learning into positive ones can be embedded in academic content or supplementary to it. For example, one overt activity is the wearing of a rubber band as a bracelet that can be snapped whenever the wearer finds himself or herself engaged in thinking that is counterproductive (Chopra, 1990). The *Snap Yourself Out of It* technique gives a quick intervention that is individually controlled, thus adding to the sense of self-empowerment.

Many other strategies foster individual empowerment for goal attainment. *Jukebox* is one of several metaphorical strategies used for this purpose. Through visualizations of scenarios, learners begin exploring how mind, body, and psyche interrelate in the self-systems composite. You might like to try it.

Visualize yourself as a colorful jukebox full of records. See the bubbling lights and bright lights. Imagine a typical day at school; some people pass by without noticing you. Others stop and push your buttons. Think about who pushes your buttons, and how they are pushed, by what others say or do. When some buttons are pushed, your lights shine a little brighter; tunes of love and happiness play. When your stress buttons are pushed, what records do you play automatically? Yelling, sarcasm, crying, silence, withdrawal, arguing, negative self-talk, humor, calmness? Determine which mental and behavior records have pleasing effects and which ones create more anxiety and internal turmoil. Because the jukebox—you, not the button pusher—decides what reaction records to play, if you don't like what you hear, it's up to you to change the records. Think about which records you want to remove from your reaction selections. See yourself taking them out and breaking them one by one. In your mind, go to an upscale mall where you walk into a plush record store. Browse. Look for new reaction records. Take your time. When you

have decided, make your purchase and head for home. Think about how your selections will sound, what you will look like, how you will feel when your new records are played. Install them in your mental jukebox. Listen, hear, feel, see yourself as these new tunes vibrate every neuron of your being. Relax in the knowledge that you are in control of your reactions.

“It became clear to me that perhaps the biggest problem with teaching is teacher education; I had been spending far too much time preparing teacher trainees how to teach academics and not enough time on teaching about the human elements of the learning process.”

Teachers can integrate this simple but powerful exercise into a lesson plan or use it spontaneously. The visualization is rich with color, sound, and emotion that clearly puts the individual in charge of his or her attitudes. By use of self-empowering strategies, students learn to attribute results of their actions to themselves rather than to something external. The exercise is empowering because it gives permission for exploration of alternative, more effective behaviors for ones that are troublesome. Thus, negative thoughts, attitudes, and attributions that arise when goal attainment seems too difficult can be defused by reconsideration of the “tunes” a person chooses to play.

Learning Style. Style is defined as an individual's preferences for receiving and expressing information (Dunn & Dunn, 1993; Keefe & Monk, 1990), for perceiving and processing input (Kolb, 1984), and for explaining why people behave as they do (Dellinger, 1989). Identification of individual learning style is generally done with self-report instruments for adults and youngsters (Dunn, Dunn, & Price, 1985; Gregorc,

1985; Keefe & Monk, 1990; Kolb, 1984; McCarthy, 1993). However, once learning style concepts are internalized, teachers can introduce them through games and activities pertaining to visual, auditory, tactual, and kinesthetic input (Dunn & Dunn, 1993), adjectives that describe geometric shapes (Dellinger, 1989), problem-solving activities (Feuerstein, 1979), and demonstrated behaviors (Gardner, 1991).

Results of learning style assessments are often plotted on a bipolar grid. By connecting plotted scores on the legs of the poles, a kite-like shape is produced. The largest quadrant represents the predominant learning style. Although terms vary, assessments resulting in quadrants have their roots in the personality types Carl Jung identified during the early 1920s (Kolb, 1984). There are two notable exceptions to a personality approach for learning style: the Learning Styles Inventory (LSI) (Dunn, Dunn, & Price, 1985) and the National Association of Secondary School Principals' Learning Style Profile (Keefe & Monk, 1990), which incorporates many concepts from the LSI. The Dunn et al. instrument purports to evaluate 21 elements across five domains: emotional, sociological, psychological, physical, and environmental. In Operation Breakthrough, we call these domains learning systems. Just as there are independent physical systems—circulatory, musculoskeletal, respiratory, and so forth—there are independent learning systems. In both cases, however, the interrelatedness of the independent systems is critical for the individual's effective functioning.

Knowledge of how individual learning preferences differ leads to insights that help explain why some people are more comfortable to be with than others. Open discussions of similarities and differences in a safe, game-like environment leads to an appreciation of different styles. For many students, this is a first step in identifying and understanding learning problems. Group knowledge of learning styles also fosters collaborative skills and reduces classroom conflicts, because students gain a greater appreciation for different approaches to the same problem or idea. Knowing about style makes different perspectives acceptable rather than right or wrong. The key is to teach students about themselves so they can take responsibility for making their own accommoda-

tions, such as sitting on the floor or standing when listening. The overarching agreement to this approach is that students must achieve better than they do without the accommodation. Consequently, students exert extra effort to achieve so they can work in ways that are individually comfortable.

Collaborative Learning

Partnerships. As soon as students have a basic understanding of a concept, skill, or strategy, they are encouraged to teach it to someone else. This one-on-one tutorial format provides students opportunities to solidify their thinking while engaged in leadership experiences, as teaching is often the best way to learn. Partnering provides practice opportunities in communication skills such as listening for the speaker's intention, questioning for clarification, and organizing and articulating thoughts. Also, literary aspects of an expository text can be clarified, as discussed later in this article.

Quality Teams. Communication skills are also practiced as students move into quality teaching and learning teams (QTLTs), a seven-step continuous improvement collaboration strategy originally developed for teacher support teams (Kovalcik, 1992) (see Figure 1). Team members rotate responsibility for facilitating weekly out-of-class meetings so that parity is always present. This model, developed by the author, is a hybrid of research from reflective practice, action research, and self-help groups. The steps of the process spell SUCCESS, and student teams—or teacher teams—specify some behavior, skill, or attitude they want to change or develop. Specified behaviors have run the gamut over the years QTLTs have been used. Examples include the following: I want to “speak more fluently on the telephone,” “stop biting my fingernails,” “keep my room clean,” and “get a C in social studies.” Once the behavior is clearly specified, baseline data are collected to better understand current behaviors. This step teaches self-monitoring and recordkeeping. Next, students create an “if-then” plan that predicts what the results of the changed behaviors will be. These first steps take approximately 3 to 4 weeks, with teams of four meeting once a week for 1 hour. Students commence

action and keep records of how well their plans are working. Their data are used to evaluate the workability of the procedures. If they cannot show predicted results, they revise the plan. After recycling through these steps, team members arrive at their desired results, which they share in writing. QTLT steps are clearly articulated on a one-sheet handout and discussed periodically as teams give progress reports. In addition to rotating the facilitator role, time keeping is a rotated responsibility to ensure that each team member has his or her full 15 minutes for team input and discussion at each meeting. Team members provide support and feedback as each member plans, implements, monitors, and shares efforts toward reaching short-term goals or small steps toward a long-range goal. The overlap between teamwork and self-empowerment is evident.

Intentional Learning

Adolescents have a tendency to go through the motions of learning what is assigned without purposeful attention to how they are learning. By learning how they cognitively process information and by learning strategic options that enhance learning, adolescents can take charge of how they construct their own knowledge (Brooks & Brooks, 1993).

Information Processing. What happens when internal and external stimuli bombard us every second of every day? How do we decide what to pay attention to and what to ignore? What mental activity causes us to think about one thing and react with an automatic behavior to another? These are interesting questions with few, if any, definitive answers. Nonetheless, because knowledge of cognition produces greater learning and an understanding of self (Gardner, 1991), it is important to have a general idea of how cognition produces specific learning outcomes.

Strategies. The academic backbone of Operation Breakthrough depends upon ACT and PRAISES, two acronyms used to develop language arts skills across the curriculum (see Figure 2). The A in ACT stands for Accept responsibility for self-empowered learning. Responsibility is defined as “responding with ability.” What is meant by *ability* is contingent upon the individual; however, students at any level can reach for higher levels of performance by reminding themselves of what accepting responsibility means. To begin the responsibility strategy, a sub-acronym, ABLE, suggests that students arrive prepared, build a daily plan, listen to self-talk, and engage enthusiastically. Posted in the classroom, these are reminders of strategies presented earlier for empowerment.

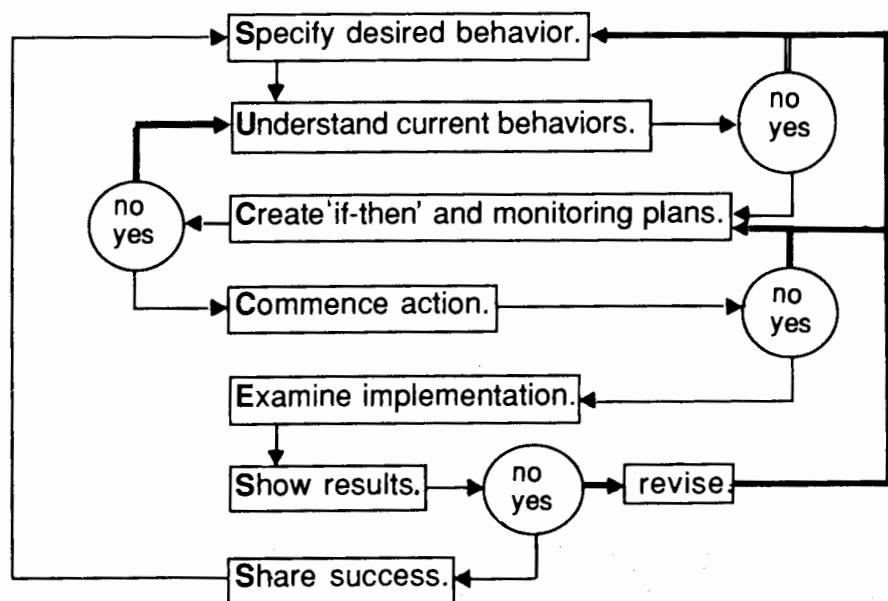


Figure 1. Quality teaching and learning team SUCCESS model.

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| Assume responsibility. | | | | | | | | | | | | | | | | | | | | | |
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| Consider what I know. | | | | | | | | | | | | | | | | | | | | | |
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| Target my goal. | | | | | | | | | | | | | | | | | | | | | |
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| Preview & map main ideas. | | | | | | | | | | | | | | | | | | | | | | |
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| Read for meaning. | | | | | | | | | | | | | | | | | | | | | | |
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| Arrange to remember. | | | | | | | | | | | | | | | | | | | | | | |
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| Inform with paraphrase. | | | | | | | | | | | | | | | | | | | | | | |
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| Script to communicate. | | | | | | | | | | | | | | | | | | | | | | |
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| Edit for errors. | | | | | | | | | | | | | | | | | | | | | | |
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| Self-monitor & review. | | | | | | | | | | | | | | | | | | | | | | |
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Figure 2. ACT and PRAISES entry-level strategies.

The *C* in ACT includes a set of suggestions for teachers and students to Consider what is already known about a topic before studying it. This may include a sharing of experiences, "brainstorming," or a well-orchestrated introduction to a new unit. Consider is an opportunity to fully awaken the depths of knowing, to stir the juices of cognitive unconsciousness squeezed from years of living. Students will often astound themselves with their own brilliance when encouraged to remove cognitive blockages and freely explore what is hidden in the recesses of their

cellular being (Houston, 1982). *T* is Target your goal, which looks at the day's activities in relation to the long-range goal established during self-empowered learning (see Figure 3).

The second and major academic acronym, PRAISES, unites reading, writing, listening, and speaking into a purposeful, strategic, whole language approach. Dullness of expository text and confusion of narrative fade as students develop Socratic relationships with authors. The humanities are emphasized as students ponder alternative histories through language, art, move-

ment, and dance. PRAISES stands for preview and map main ideas, read for meaning, arrange to remember, inform with paraphrase, script to communicate, edit for errors, and self-monitor and review. During the preview and read steps, students' attention is focused on identification of the author's purpose, his or her choice of words for conveying that purpose, and the genre used. Students begin to read expository text for personal meaning as if it were narrative. During the arrange to remember step, Gardner's seven intelligences have open range as students

take ownership of textual information. Here they interpret, rearrange, and express information through their various learning styles and intelligences. They continue to honor their preferences during the following five steps. The inform step includes explicit instruction in organization of thoughts for clear oral communication. Again, students select an audience and a purpose for their newly learned information. They attend to specific word choices as they paraphrase to match a selected genre for oral communication (Brown & Cambourne, 1987; Cambourne, 1988). Choices include journalist, friend, police informant, and others, depending upon the topic. Paraphrasing and retelling provide opportunities for student creativity while they are learning new information.

The script and edit writing process steps provide additional opportunities for students to develop literary skills often begun during the inform step.

The "whole language" or learning through literature concepts advocated for early grades (Routman, 1988, 1991) are applicable for use with adolescents as they write about what they read. The last step, self-monitor and review, includes the development of a personal record-keeping system that overlaps with self-managed learning. This overt, explicit framework gives students a system for learning new information and for studying on their own (see Figure 4).

Self-Managed Learning

It is relatively easy to set academic goals; it is more difficult to take the necessary action to turn those goals into reality. Self-managed learning occurs when individuals use self-talk and other strategies to keep their actions in alignment with achievement of their personal goals. Often, stress and unforeseen events and circumstances

make this alignment exceedingly difficult. Thus, attention is focused on three major areas in this action-oriented strand: physical activity for learning, physical and mental well-being, and stress management.

Physical Activity. Engaging students actively when learning content helps focus their attention on what is to be learned. Students make note cards for new words and concepts when reading, and they are encouraged to develop skits or otherwise act out new concepts to better understand unfamiliar information. Creating experiential learning from printed text is the purpose of the arrange step of PRAISES. For example, students might study a text on how neurons carry messages—a concept introduced in some science series in fourth grade and repeated with more depth every other year throughout high school. Students physically encode (Clark, 1986) the process when

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| Dates | | | | | | | | | | | | | | | | | | | |
| ASSUME RESPONSIBILITY | | | | | | | | | | | | | | | | | | | |
| Arrive prepared. | | | | | | | | | | | | | | | | | | | |
| Build a plan. | | | | | | | | | | | | | | | | | | | |
| Listen to your self-talk. | | | | | | | | | | | | | | | | | | | |
| Engage enthusiastically. | | | | | | | | | | | | | | | | | | | |
| CONSIDER WHAT YOU KNOW | | | | | | | | | | | | | | | | | | | |
| Describe a concept or topic. | | | | | | | | | | | | | | | | | | | |
| Examine personal & vicarious experiences. | | | | | | | | | | | | | | | | | | | |
| Clarify characteristics & descriptors. | | | | | | | | | | | | | | | | | | | |
| List examples, non-, & sometimes examples. | | | | | | | | | | | | | | | | | | | |
| Announce how it works or functions. | | | | | | | | | | | | | | | | | | | |
| Recall associations & implications. | | | | | | | | | | | | | | | | | | | |
| Explore metaphors & modifications. | | | | | | | | | | | | | | | | | | | |
| TARGET MY GOAL | | | | | | | | | | | | | | | | | | | |
| Assess the task. | | | | | | | | | | | | | | | | | | | |
| Crystalize my success. | | | | | | | | | | | | | | | | | | | |
| Embark; begin the adventure. | | | | | | | | | | | | | | | | | | | |

Figure 3. ACT: Mid-level student monitoring checklist.

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PREVIEW AND MAP MAIN IDEAS

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| Motivate reading, enjoy illustrations. | | | | | | | | | | | | | | | | | | | | |
| Anticipate an outline, map, or diagram. | | | | | | | | | | | | | | | | | | | | |
| Ponder, question, & predict. | | | | | | | | | | | | | | | | | | | | |

READ FOR MEANING

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| Reflect on the overview. | | | | | | | | | | | | | | | | | | | | |
| Enjoy, interpret & make inferences. | | | | | | | | | | | | | | | | | | | | |
| Analyze signals and clues. | | | | | | | | | | | | | | | | | | | | |
| Design clusters & categorize items. | | | | | | | | | | | | | | | | | | | | |
| Save essential non-list items on cards. | | | | | | | | | | | | | | | | | | | | |

ARRANGE TO REMEMBER

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| Orate in rap, rhythm, or rhyme. | | | | | | | | | | | | | | | | | | | | |
| Rewrite with synectics and metaphors. | | | | | | | | | | | | | | | | | | | | |
| Draw pictures as mnemonics. | | | | | | | | | | | | | | | | | | | | |
| Explore "new" with known information. | | | | | | | | | | | | | | | | | | | | |
| Respond with touch and movement. | | | | | | | | | | | | | | | | | | | | |
| Study alone or with someone. | | | | | | | | | | | | | | | | | | | | |

INFORM WITH PARAPHRASE

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| Tell what was learned. | | | | | | | | | | | | | | | | | | | | |
| Ask if message is clear. | | | | | | | | | | | | | | | | | | | | |
| Listen for meaning. | | | | | | | | | | | | | | | | | | | | |
| Keep comments on track. | | | | | | | | | | | | | | | | | | | | |

SCRIPT TO COMMUNICATE

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| Write topic sentences from map or diagram. | | | | | | | | | | | | | | | | | | | | |
| Restate concepts using list & cards. | | | | | | | | | | | | | | | | | | | | |
| Include details using signal words. | | | | | | | | | | | | | | | | | | | | |
| Think of a conclusion. | | | | | | | | | | | | | | | | | | | | |
| Examine for accuracy & clarity. | | | | | | | | | | | | | | | | | | | | |

EDIT FOR ERRORS

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| Evaluate sentence patterns. | | | | | | | | | | | | | | | | | | | | |
| Determine noun-verb agreement. | | | | | | | | | | | | | | | | | | | | |
| Investigate written mechanics. | | | | | | | | | | | | | | | | | | | | |
| Take time to revise, rewrite, & share. | | | | | | | | | | | | | | | | | | | | |

SELF-MONITOR AND REVIEW

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| Plan, practice, & preserve. | | | | | | | | | | | | | | | | | | | | |
| Review maps, list, cards, & compositions. | | | | | | | | | | | | | | | | | | | | |
| Include reflective thinking. | | | | | | | | | | | | | | | | | | | | |
| Determine how well goals were met. | | | | | | | | | | | | | | | | | | | | |
| Examine ways to increase progress. | | | | | | | | | | | | | | | | | | | | |

Figure 4. PRAISES: Mid-level student monitoring checklist.

they line up and "send" messages to the "brain" and back again with outstretched fingers representing dendrites and axons. Someone else blows bubbles to represent neurotransmitters as students sing out, "dendrite, cell body, axon, neurotransmitters, dendrite, cell body, axon," and so on. When this was done in a graduate class, one student said it was the first time she really understood how neurons worked. It may take several well-planned active learning experiences such as this one to convince some students to participate, but once involved, even withdrawn students generally become invested in experiential learning. Also, the tactual and kinesthetic sensory modalities are often strengths for students with learning disabilities. Active, experiential learning provides opportunities for their legitimate use.

Physical and Mental Well-Being.

Teachers may have little impact on the eating, sleeping, and relaxation habits of their students, but they can teach simple physical exercises to increase students' access to the learning prowess they possess. Simple exercises adapted from optometry and kinesiology are particularly helpful in reducing anxiety and increasing calmness before taking tests and when studying or problem solving. Cross-lateral stretching, marching in place, touching the right elbow to the left knee and then the left elbow to right knee, and so forth (Dennison, 1989), and massaging just in front of the temporomandibular jaw joint (Given & Stack, 1987) are exercises designed to stimulate the flow of messages across the corpus callosum, that densely packed nerve bundle that joins the right- and left-brain hemispheres. An abundant flow increases opportunities for the gestalt/spatial right brain to support the linguistic/sequential left brain, and vice versa (Houston, 1982).

Stress Management. When internal stress is present, concentration is focused elsewhere and learning is depressed. Hart (1983) and Caine and Caine (1991) referred to this as mental "downshifting." Self-empowerment can be diminished by the constriction of brain functioning during cognitive downshifting. This occurs when the individual's mind is flooded with specific neurochemicals generated by stress to one or more of the individual's living

systems: emotional, sociological, psychological, physiological, or environmental. Thinking is enhanced when other neurochemicals are produced through specific thoughts and actions (Chopra, 1990). Strategies that promote relaxed alertness and dispel tendencies toward downshifting are needed before academic lessons can reap intended dividends (Caine & Caine, 1991). Teacher preparation textbooks often ignore this pervasive and growing phenomenon except in volumes specifically written for students at risk for school failure or those having emotional disturbance. Even in these publications, little is said about the teacher's, as well as the student's, need for harmony of the human self-systems. Individuals need to build an understanding of the interconnectedness of these self-systems and the role these connections play in fostering self-empowered learning. A graduate student reported that a 15-year-old in her self-contained class for students with severe emotional and behavior problems asked her to repeat something "because he had temporarily downshifted." This comment was made several days after the class had studied information processing.

Because self-management involves being in control of one's actions, reactions, and interactions, *overcoming stress and getting what you want in the classroom* are important keys, and they relate back to goal setting. Critical questions concerned with this statement include the following: "Who is meant by you?" "What is meant by stress?" and "How can stress be overcome?" When viewed from different perspectives such as those of employers, society, administrators, parents, students, and teachers, *what is wanted* in the classroom varies, and getting it is contingent upon the degree of actual and felt power by participating parties. Thus, helping students make connections between self-empowered and self-managed learning is vital to their success. It is their felt power for self-management that directly affects how they overcome stress and get what they want in the classroom. The same is true for teachers.

Even though stress cannot and should not be totally eradicated, distress can be *overcome* by developing skills to gain control over it. Individuals can become aware that stress is a nondiscriminatory, common phenomenon.

Reflective Learning

Reflective learning helps students develop self-questioning skills that focus on past events to predict future behaviors. The purpose is to self-monitor for continuous improvement toward quality work and behavior habits (Bonstingl, 1992; Lloyd, 1990; Walton, 1986). Initially, for those who need it, the procedure includes a tape-recording with intermittent beeps. When the beep is heard, students record either a "yes" or a "no" to indicate their attention to the specific task. Recording sheets that correspond to the steps employed during ACT and PRAISES are used without a tape recorder as students assume more responsibility for their learning.

Questioning in Natural Environments.

The combined use of portfolio assessment and reflective practice can be implemented for teacher as well as student growth. At the conclusion of, or at any time during, the process of task completion, individuals are guided to ask themselves such questions as, "Under the circumstances in this environment, how am I doing?" "What do I like about what I've accomplished thus far and why do I like it?" "If given a choice, which work would I display and which would I throw away?" "Why are these my choices?" and "What will I do differently next time?" Questions like these lead to decision making based on careful consideration of progress and accomplishments. This type of self-evaluation represents the highest level of thinking according to Bloom's taxonomy (Krathwohl, Bloom, & Masia, 1964).

Authentic Assessment. Authentic assessment (Goodman, Bird, & Goodman, 1992) and alternative assessment (Herman, Aschbacher, & Winters, 1992) are relatively new concepts. Both are based on evaluation in natural settings under natural circumstances rather than standardized testing in contrived environments. In Operation Breakthrough, teachers and students are asked to reflect on their work, self-evaluate, and critique it for one another. Through this type of interaction, especially when portfolios, oral presentations, and student-produced videos are used, individuals can gain a better understanding of how their efforts and progress are received by others.

Conclusion

Operation Breakthrough is a comprehensive approach to teacher preparation that is implemented with children, adolescents, and adults in the Education Study Center at George Mason University. Development of the five habits of the agile learner—self-empowered, collaborative, intentional, self-managed, and reflective learning—is an ongoing, life-long process. Purposeful habit formation and movement toward alignment of all five interdependent learning systems—emotional, sociological, psychological, physiological, and environmental—are the cornerstones of the process of agile learning. Formation of the five habits is intended to address the need to prepare students for an ever-changing workforce. Explicit instruction in how learning occurs, how to manage the learning process, how to work effectively with others, and how to understand oneself as a learner are basic to becoming an educated individual. Just as Operation Breakthrough is an evolving model, so learning how to learn is an evolving process for students and teachers. The goal is academic self-regulation for continuous improvement. Expenditure of class time to teach self-systems concepts, especially those that foster self-empowerment, can result in greater classroom satisfaction for all who share the teaching and learning environment.

Greater personal, social, academic, and employment competencies of high school graduates are long-range teacher goals. If teachers focus on development of their own life-long learning habits, continuous self-systems improvement and agile learning could become a way of life for them and their students. When that happens, textbooks will no longer drive the curriculum but will become major resources for quality learning (Routman, 1991). In collaborative learning groups, such as quality teaching and learning teams, students' meaningful interchange of ideas can ensure student involvement, reduce classroom disruptions, and foster socially appropriate behaviors. In combination, these habits of life-long learning will promote effective participation in the global community and workforce of the 21st century. To formulate agile learning habits and to reap their benefits, changes are needed in teacher preparation and in the delivery

of educational services. Operation Breakthrough, with its five habits of the agile learner, is one evolving transitional model for change. ■

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