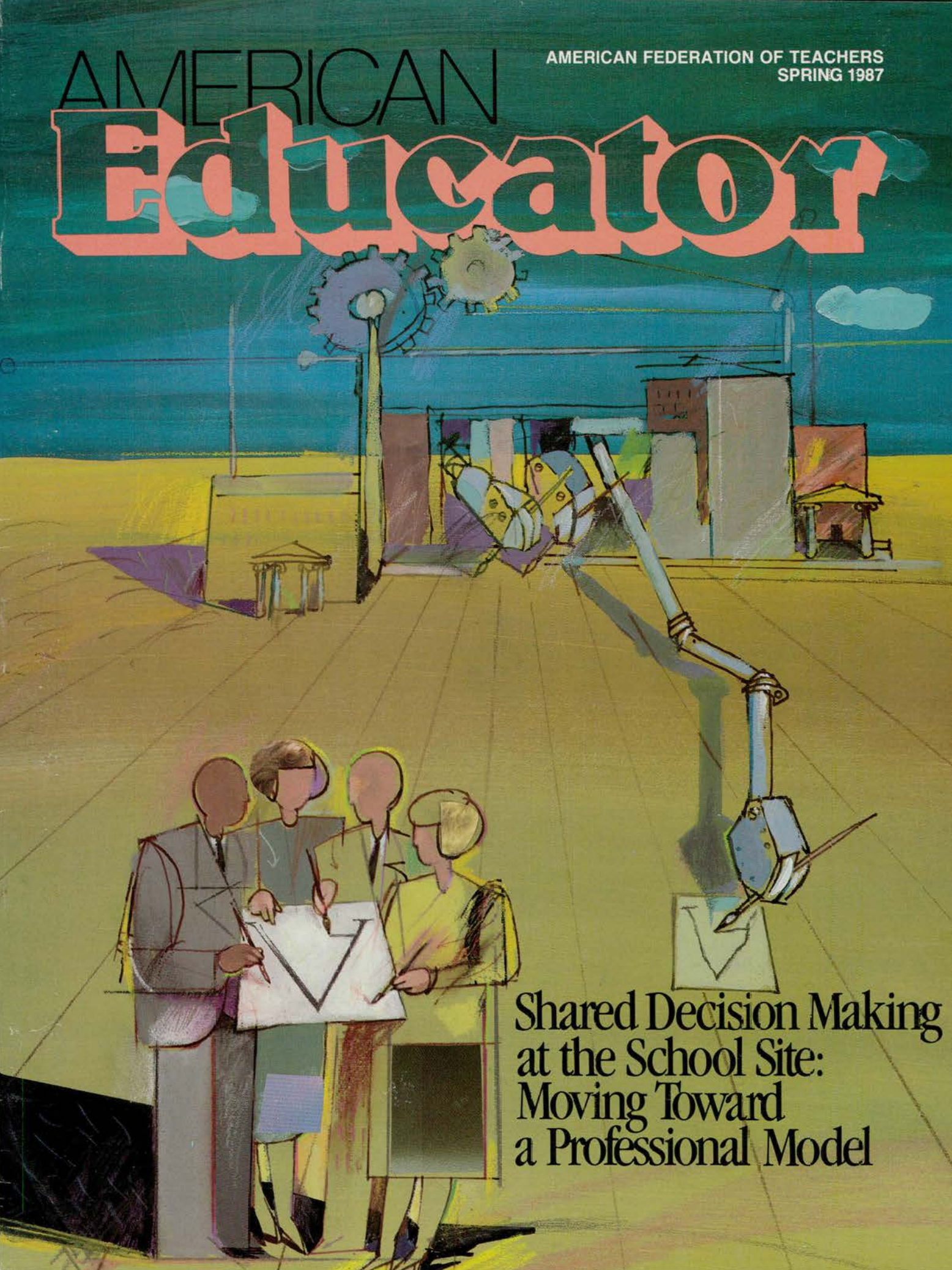
AMERICAN FEDERATION OF TEACHERS
SPRING 1987

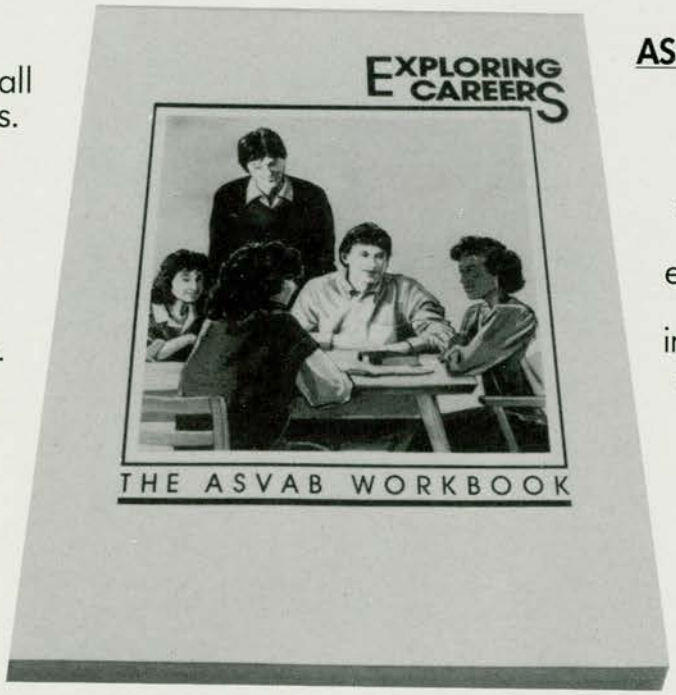
AMERICAN Educator



Shared Decision Making at the School Site: Moving Toward a Professional Model

Explore Careers with the New ASVAB Workbook.

The new **ASVAB Workbook** will be provided this fall to all ASVAB-14 test-takers. Designed and field tested by the Educational Testing Service, it is a new, easy-to-use resource that will help students understand their ASVAB results and explore career options.



Why is the new ASVAB Workbook so valuable to students?

- It motivates students to learn more about themselves and to learn more about rewarding career opportunities.
- It teaches career exploration and decision-making skills.

Why is the new ASVAB Workbook so valuable to counselors?

- It provides students with an opportunity to explore their aptitudes, values, interests and educational/career goals. Subsequent meetings with students can be more productive.
- It's flexible. Counselors and teachers can use the workbook for classroom-based career guidance activities, as well as for working with individuals or small groups.

ASVAB: The most widely used Aptitude Test in America.

☐ YES. I would like to get a head start on my students.
Please send me your FREE brochure now, explaining the benefits of the new **ASVAB Workbook.**

NAME _____ (FIRST) (MIDDLE) (LAST)

POSITION _____

SCHOOL NAME _____

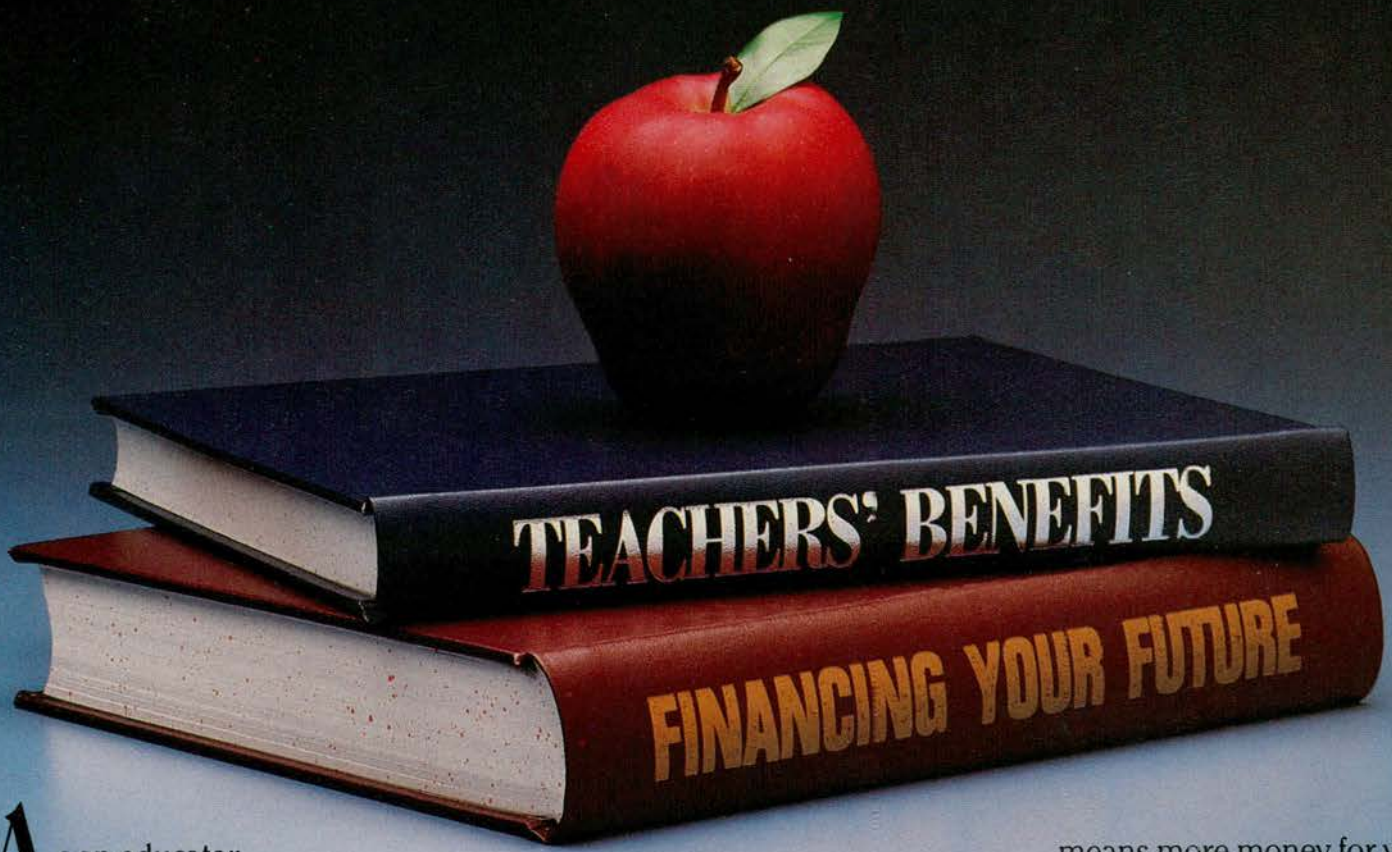
SCHOOL ADDRESS _____

CITY _____ STATE _____ ZIP ☐☐☐☐☐

Mail this coupon before July 31, 1987, to ASVAB, P.O. Box 4214, Huntington Station, New York 11746.

A

The Benefit That's In A Class By Itself



As an educator, you have a real financial advantage. Recognizing that you don't have the many benefits that are available to private sector employees—bonuses, profit sharing, etc.—Congress authorized a tax benefit for you that's in a class by itself: the Tax-Deferred Annuity.

A VALIC Tax-Deferred Annuity (TDA) allows you to exclude a portion of your salary from current tax liability and put those tax dollars to work for you.

Not only will a VALIC TDA reduce your current tax liability and maximize your income, but since all contributions *and earnings* remain untaxed until withdrawn, they grow much faster than conventional savings plans. This means more money for you in the years to come.

Learn more about how a VALIC TDA will help you beat the tax bite. Write VALIC, Dept. M, Suite A7-25, 2929 Allen Parkway, Houston, Texas 77019.

VALIC The Annuity Company

Tandy, ESTC™ and You... Together a Difference!

Now—a complete curriculum in basic concepts that stresses higher-order thinking skills using computer technology.

We are concerned about American education.

Tandy Corporation and Education Systems Technology Corporation have teamed up to offer elementary schools the finest reading and mathematics curriculum available. The curriculum does not replace existing curriculum or teachers; rather it enhances the school's commitment to quality reading and mathematics education by providing a foundation for the essential concepts and skills.

A fresh approach to the basics

All lessons are in color, utilize extensive graphics, friendly characters, voice, music and animation. ESTC curriculum presents Reading and Mathematics material in a way that textbooks cannot. Research indicates that children progress by learning how to think rather than by performing constant drills and exercises. The approach ESTC has taken emphasizes thinking skills, positive attitudes toward subject matter, mastery and application of a concept and positive work habits. And since children love to work on computers, they're never bored in school!

We believe that how a child processes and applies information is as important as the information itself, and in so doing the child is learning how to think independently. We also believe that a child can be lead and coached to develop and utilize such skills when the curriculum has been selected and orchestrated with the outcome of critical-thinking skills as an essential priority. The software utilizes state-of-the-art computer technology provided by Tandy Corporation to show moving graphics to make a point, to ask a student to estimate and check an approach, to offer a menu of choices for examples before proceeding, and to keep track of each student so that the child, the teacher, the school and the parents will always know how the child is doing.

Tandy and ESTC = Service and Support

ESTC's support is continuous and on-going. With this full-service concept, which includes new software releases throughout the life of the contract, your school can put aside its concerns about the use of computers in reading and mathematics. Tandy computers are backed by total support from Radio Shack, the world's largest computer retailer.

Tandy and ESTC are concerned about education, and together we're working to ensure a brighter future for your pupils.

Radio Shack®
Superior Systems for Superior Classrooms℠

Send me an ESTC Brochure.

Mail To: Radio Shack, Dept. 87-A-38
300 One Tandy Center, Ft. Worth, TX 76102

Name _____

School _____

Address _____

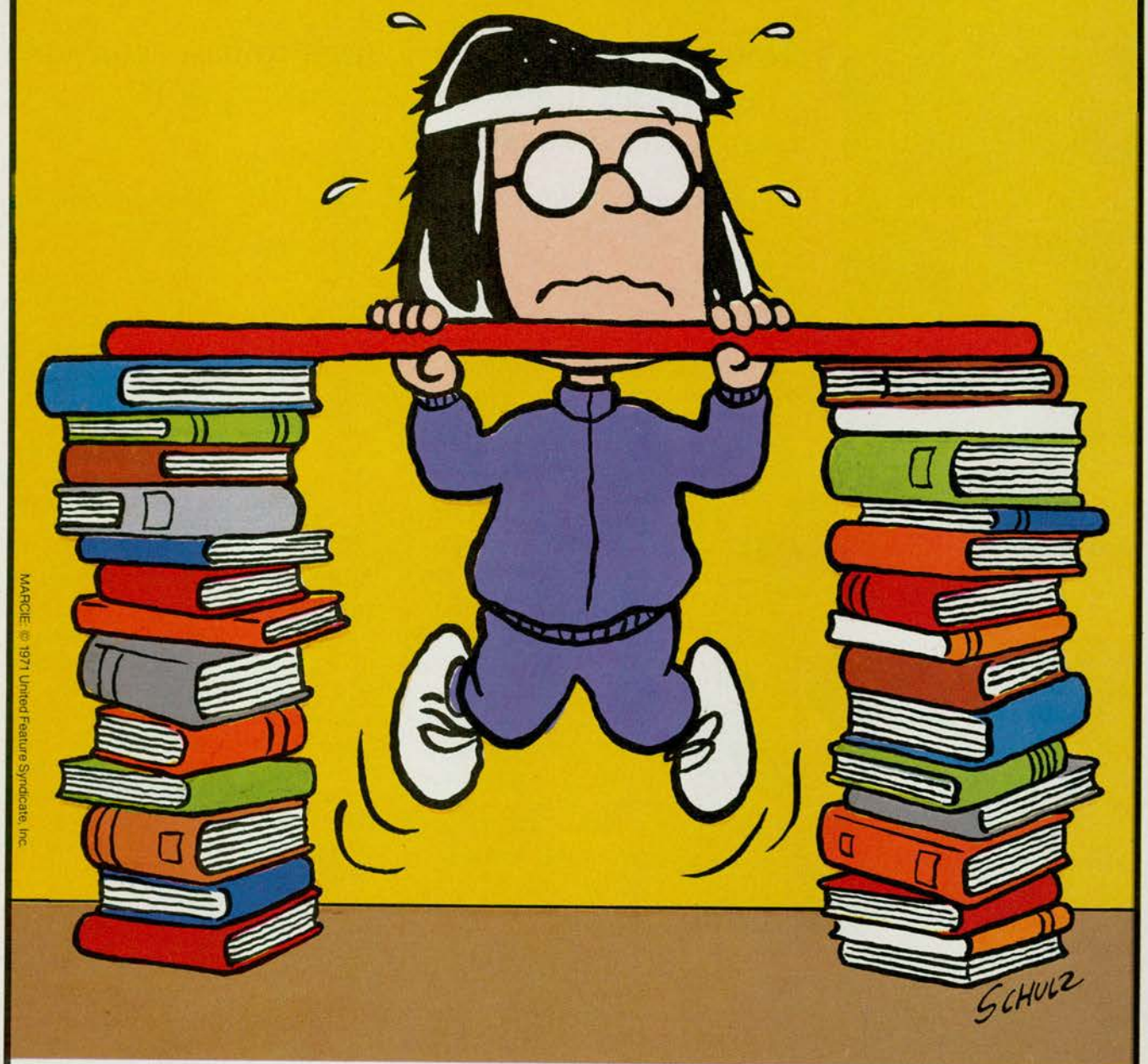
City _____ State _____

ZIP _____ Phone _____

ESTC/TM Education Systems Technology Corporation.

For more information circle 5 on Product Information Card.

HEALTH EDUCATION SHOULD EXERCISE YOUR MIND, TOO.



Along with chin-ups, children need to learn good nutrition and other principles of staying healthy. Better health education comes from health-educated teachers.

That's why Metropolitan Life Foundation's "Healthy Me" started a program to enhance teachers' skills. This way, teachers, and kids, turn out healthier.

The Foundation offers cash awards for professional preparation, exemplary health instruction programs and for community groups that actively promote comprehensive health education.

For information, write, "Healthy Me," Health and Safety Education (16UV), One Madison Avenue, New York, New York 10010–3690.

Healthy kids now mean healthy leaders later.

Metropolitan Life Foundation

For more information circle 4 on Product Information Card.

The Professional Journal of the American Federation of Teachers
Volume 11, No. 1, Spring 1987

ALBERT SHANKER
President
American Federation of Teachers

Elizabeth McPike
editor

Mary Power Boyd
assistant editor

Wanda Bailey
secretary

Andrew Bornstein
design consultant

Cover illustrated by Salvador Bru

Subscriptions: AFT members receive **American Educator** as part of their AFT membership services. Nonmembers may subscribe for $8 per year.

Signed articles and advertisements do not necessarily represent the viewpoints or policies of the American Federation of Teachers, AFL-CIO.

American Educator cannot assume responsibility for unsolicited manuscripts.

American Educator is published quarterly by the American Federation of Teachers, AFL-CIO, 555 New Jersey ave., N.W., Washington, DC 20001. Telephone: 202-879-4420.

General advertising office
555 New Jersey Ave., N.W.
Washington, DC 20001
Telephone: 202-879-4420

Advertising Sales Representative
Peter Li, Inc.
2451 E. River Rd.
Dayton, OH 45439
513-294-5785

William M. Doran, Michael O'Callaghan, Frank Guttmann
Peter Li, Inc.
1220 Broadway
New York, NY 10001
212-947-2300

Southwest
Gary Lindenberger
Hawley-Lindenberger & Sullivan, Inc.
11777 Katy Freeway, Suite 155
Houston, TX 77079
713-870-0470

West
Terry Casaus
The R. W. Walker Co.
2716 Ocean Park Blvd., Suite 1010
Santa Monica, CA 90405
213-450-9001

Midwest
Thomas H. Bachmann, Patricia O'Connor, Edward R. Percarpio
Peter Li, Inc.
1913 West Van Buren
Chicago, IL 60607
312-942-0063

American Educator is produced with the assistance of members of Local 2, Office and Professional Employees International Union, AFL-CIO, and members of AFT Staff Union. Composition and printing are done in 100 percent union shops.

PAGE 18

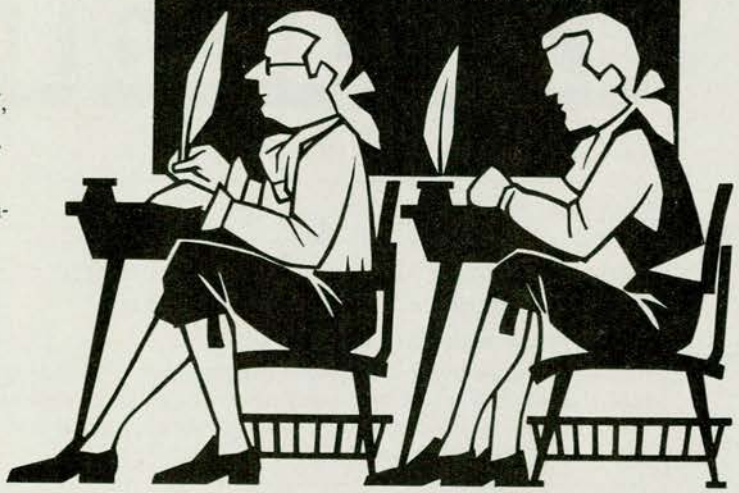
PAGE 26

PAGE 38

AMERICAN Educator

THE CONSTITUTION IN THE CLASSROOM

Ideas and Resources for Teaching and Learning about the U.S. Constitution



The celebration of the bicentennial of the U.S. Constitution provides an exciting opportunity for teachers to help bring to life a document too often taken for granted. You don't have to be a social studies teacher to integrate this celebration into your classroom; the Constitution lends itself to applications across the curriculum.

National Event

On September 16, 1987, the day before Constitution Day, "A Celebration of Citizenship" will be held in schools across the country, including a day-long program involving teachers. Guides will be distributed to help teachers show how citizenship is reflected in science, music, art, and literature, as well as history and the social studies.

The AFT is helping to plan this day, which is sponsored by the American Newspaper Publishers Association Foundation and the Commission on the Bicentennial of the U.S. Constitution. Former Supreme Court Chief Justice Warren Burger will interpret the Preamble to the Constitution; President Reagan will lead the country in the Pledge of Allegiance over national television. This "teach in" on the Constitution is still in the planning stages. Check the **American Teacher** for further details on this "Celebration of Citizenship Day." The following is a list of resources available now.

Speakers Bureau

Many people in the community are knowledgeable about the Constitution and can be called upon to present your class with a stimulating lesson. The Commission on the Bicentennial of the U.S. Constitution has a pamphlet that tells you how to set up a speakers bureau. Call (202) 653-9800 or write 736 Jackson Place, NW, Washington, DC 20503, for more information.

Awards

If you have an innovative bicentennial project, you may apply for a new leadership awards program. Criteria for selection include the degree of community involvement in planning and conducting the project, the quality of scholarship, scope of project, and originality of idea. For more information, write or call the Council for the Advancement of Citizenship, Bicentennial Leadership Project, Suite 520, One Dupont Circle, NW, Washington, DC 20036 (202) 861-2583.

Recordings

Project Constitution has teamed up with the Campbell Soup Company and Philip Morris Inc. to distribute a dramatic recording of the Constitution, "Our Enduring Constitution of the United States." Available on both record and cassette, this award-winning recording is available by calling (212) 685-2440.

Curriculum

A set of lesson plans on the Magna Carta is available for students from grades four through twelve. A comparison of the Magna Carta with the U.S. Constitution is carefully explained in detailed lesson plans written for specific grade levels. Write Oregon Law-Related Education Project at 220 S.E. 102 Ave. Portland, OR 97216. Cost is $9.75 and includes postage.

Clearinghouses

Two excellent sources of information on the bicentennial are the American Bar Association, Special Committee on Youth Education for Citizenship, 750 North Lake Shore Drive, Chicago, IL 60611 and the Council for the Advancement of Citizenship, One Dupont Circle, NW Suite 520, Washington, DC 20036.

Books

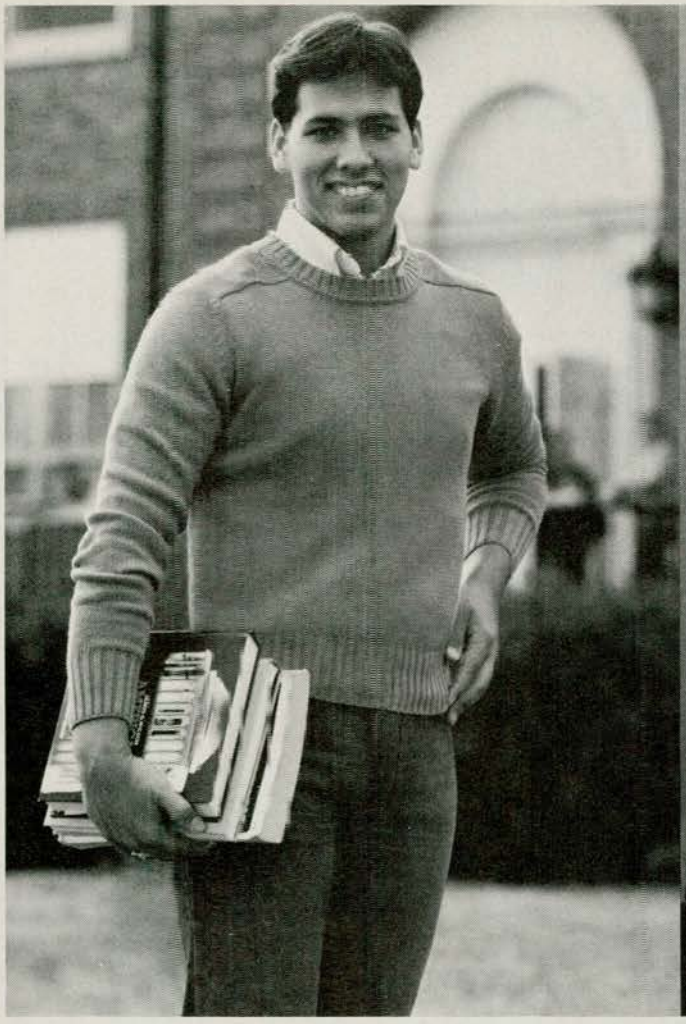
The Constitution Yesterday, Today and Tomorrow with a *Teaching Guide* is available from Scholastic, Inc. Written for grades six through nine, it is a student text and a reference tool. Single copies $4.95; the teacher's guide $2. Call toll free for more information: 1-800-325-6149 between 7:30 A.M. and 5:00 P.M. Central Time.

A Machine That Would Go of Itself, The Constitution in American Culture is a book by Pulitzer prize-winning historian Michael Kammen. Kammen's style is lucid, and he challenges some long-held views on the Constitution. Check your local library. It sells for $29.95 and is published by Alfred A. Knopf, New York.

Computer Simulation

Designed for use in seventh- through tenth-grade social studies classes, a computer program is available that simulates the Constitutional Convention. The student is asked to make choices consistent for his or her state, and the program lets the student know if he or she has made the correct decision as it relates to various conflicts that actually occurred during the convention. The program runs on Apple Computers. There is a toll-free number for more information (1-800-645-3739) or write Educational Activities, 1937 Grand Ave. Baldwin, NY 11510. □

Items in this list chosen and compiled by Paula O'Connor, director of AFT information services.



WE DO A LOT FOR OUR CONTINUING EDUCATION STUDENTS BECAUSE THEY DO SO MUCH FOR US.

Young people who are doing all they can for our country deserve the opportunity to do all they can for themselves.

That's what ACES is all about. The Army Continuing Education System offers a variety of programs through which soldiers can get tuition assistance, credit for independent study, management and vocational training, even the opportunity to learn foreign languages.

It all starts with the counseling every soldier receives soon after joining the Army. At the Army Education Center on post, soldiers learn about ACES programs and determine which are best suited for their educational and career goals. ACES counselors are available to advise soldiers throughout their Army careers.

Your students can work toward college degrees while they're in the Army. Through ACES, they can take college courses right on post or at a nearby campus. Soldiers may enroll in programs that will enable them to transfer college credits back to "home schools" if they are transferred. These programs can lead to vocational/technical certificates, and Associate, Baccalaureate and Masters degrees.

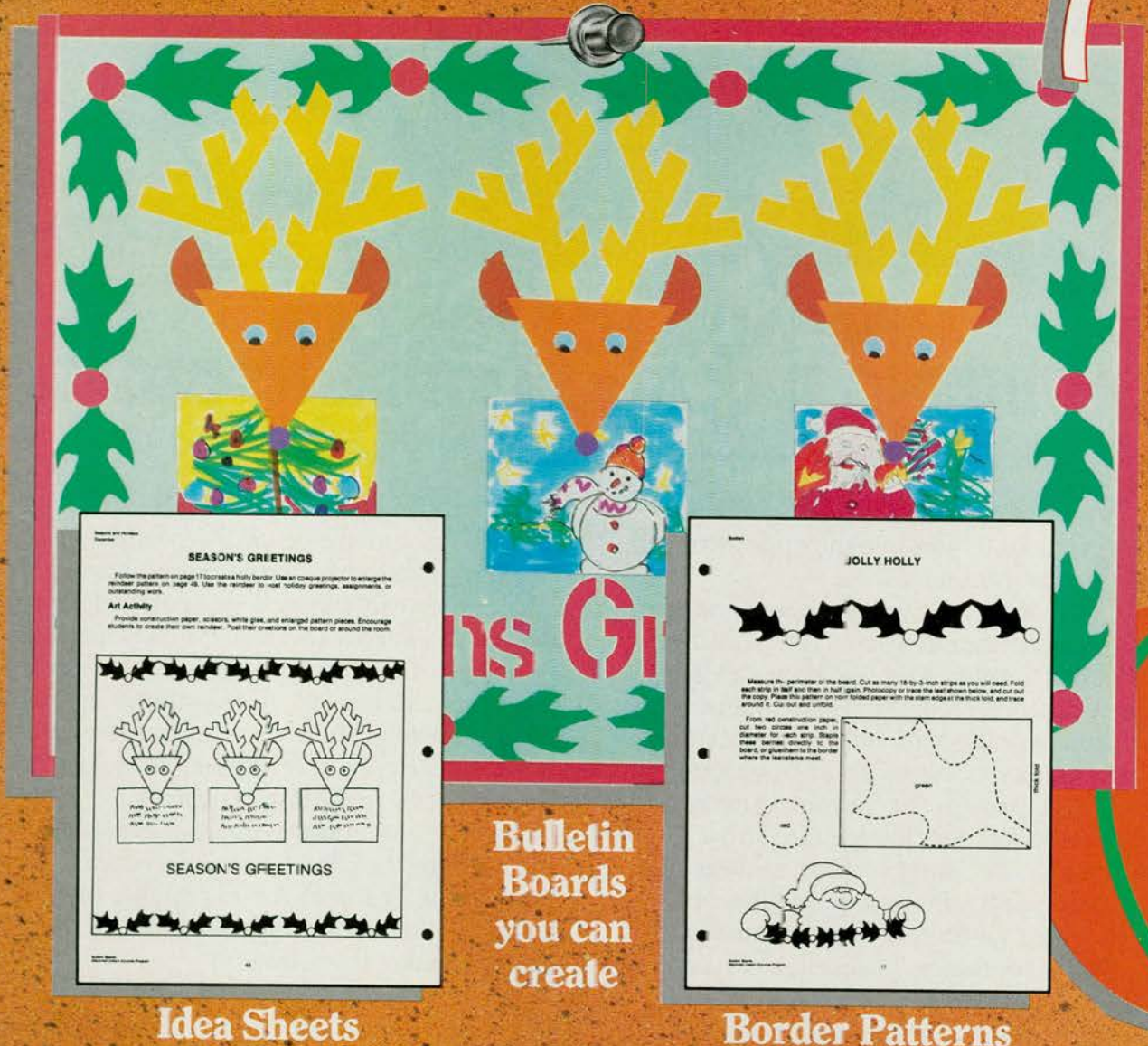
Your students can find out more about ACES from their local Army Recruiter, who's listed in the Yellow Pages. Experience has taught us that the more our soldiers can learn, the better it makes the Army.

ARMY. BE ALL YOU CAN BE.

Make your classroom a Showplace of Creative Teaching

...just follow the ideas and instructions in

BULLETIN BOARDS



Idea Sheets

Bulletin Boards you can create

Border Patterns

Yours for 10 days FREE from Macmillan Instant Activities Program.®

With a week full of different classes, homework assignments, projects and problems—who has time to think up unusual new bulletin boards, let alone make them? That's why we did it for you. With Bulletin Boards.

BULLETIN BOARDS gives you all the concepts and patterns you need to make dozens of great displays. The "busy work" has been done for you. Just choose your theme, follow the step-by-step directions—and presto!—you have a splendid, instructive bulletin board. And each project has several related activity sheets designed to improve children's basic skills and encourage independent thinking.

This exciting new package is just one part of a unique teaching program. Designed for teachers of grades 3 through 6, the *Macmillan Instant Activities Program* is a series of fun-filled activity sets, each on a subject where you can use some extra help. Bulletin Boards. Reading. Grammar and Spelling. Math. Science. Creative Writing. And more.

Every set has 112, 8½″ × 11″ pages of activities, 3-hole punched for filing in the binder that comes FREE with this introductory package. You'll also get at least two special teaching aids for reinforcing each subject's activities. With Bulletin Boards, we've included enlargeable transparencies...and stencils of letters and numbers for boards with a professional look!

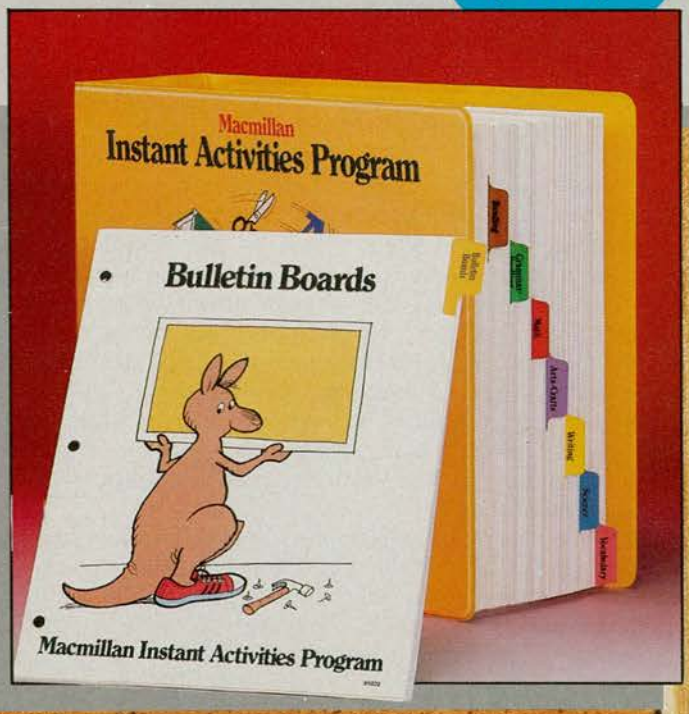
Start enjoying the benefits of this unique program by sending for Bulletin Boards, your introductory set. You'll be lighting up your classroom with holiday designs, creative calendars and wall exhibits, while the children have fun with the skillbuilders, activity centers and achievement awards. And of course, this and all following sets bear the seal of outstanding quality teachers everywhere have come to expect of Macmillan.

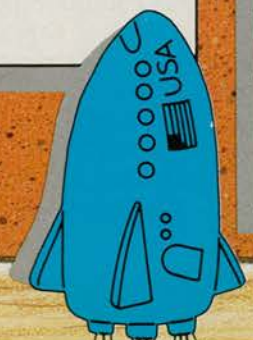
If the reply card has been removed, please write to: Macmillan Instant Activities Program, Dept. GAW2, P.O. Box 938, Hicksville, N.Y. 11802 to obtain membership information and an application.

American Educator 3/87

Free
3-RING BINDER
(an $11.95 value)
with Bulletin Boards for organizing and storing all your activity sets

Transparencies and Stencils





SHARED DECISION MAKING AT THE SCHOOL SITE: MOVING TOWARD A PROFESSIONAL MODEL

An Interview with Patrick O'Rourke

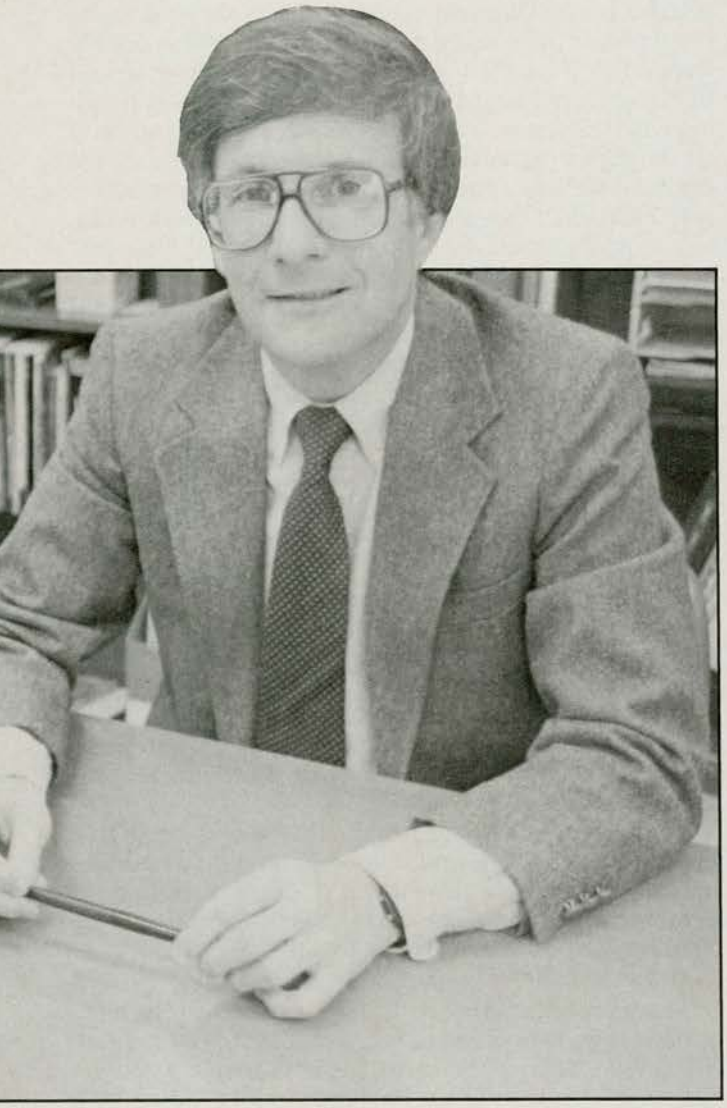
THE COMMON structure of authority in school districts around the country is a hierarchical one. Teachers are typically at the receiving end of policies and directives that issue from the offices of district-level administrators and school principals. The autonomy that teachers have within their classrooms is considerably compromised by their exclusion from decisions on issues that affect life in the classroom, such as school structure and organization, disciplinary procedures, curriculum content, academic standards, staffing needs and hiring decisions, and spending priorities. Teachers sometimes sit on committees that consider these issues, but there usually is a clear distinction between "input" and decision making, with teachers on the input side. Although collective bargaining contracts touch on some issues of educational policy, school boards — backed by courts and state legislatures — have generally tried to narrow the scope of bargaining, insisting that topics other than wages and working conditions are management prerogatives and, as such, "not negotiable."

In Hammond, Indiana, all of this is changing. To the extent that it is legally and practically possible to do so, decisions that were once made by the school district's central office are being turned over to each individual school. Not only has the locus of authority changed, so has the constellation of who holds it. A growing number of decisions are now in the hands of school-site committees composed of teachers, administrators, and community representatives. The boundaries of teacher authority have been dramatically expanded. For the first time, teachers are touching all the areas that touch them and their students.

Hammond's new school-site management system is the result of a program called the School Improvement Process, more commonly referred to as SIP. The principles that underlie SIP find strong support in both the literature describing the characteristics of effective schools — which says that each school is and must be allowed to be a separate culture — and in theories of modern management that emphasize the importance of decentralization, employee involvement in the decisions that affect their work, and the development of a feeling of "ownership" of those decisions.

PHOTOGRAPHS BY DANA BALL

The city of Hammond has a population of about one hundred thousand and is situated in the northern tip of Indiana, between Gary, Indiana, Lake Michigan, and the Chicago metropolitan area. Student enrollment in the school district numbers just over thirteen thousand and



Patrick O'Rourke (above). Kindergarten teacher Karen Csigas (upper right) was part of the team that restructured the kindergarten curriculum at her school to incorporate a wide range of hands-on activities. These design team chairpersons (lower right) at Lafayette Elementary School are leaders in the effort to involve teachers in all matters that affect them and their students: Back Row: Lois Rogers, Joellyn Schwandt, Susan Vandemerkt, Rosemary Balczo. Front Row: Alma Murphy, Melissa Pecher, Betty Yamada.

there are twenty-five school sites and approximately nine hundred teachers. The economic depression that has hit the city's industrial base — the steel mills — and that has left the school district in a constant struggle against financial constraints seems to stand in sharp contrast to the hope and enthusiasm generated by the SIP program.

In 1985, following a successful pilot project at one high school and two middle schools, language outlining the authority and procedures for the School Improvement Process were negotiated and made part of the contract between the Hammond Teachers Federation and the Board of School Trustees. SIP was then expanded to all schools in the district. The president of the Hammond Teachers Federation — and by everyone's account the source of much of the energy and inspiration behind SIP — is Patrick O'Rourke. Mr. O'Rourke has been president of the teachers union since 1974, during which time he has continued to teach U.S. history part time at Hammond High School. He is a member of the Executive Board of the Indiana Federation of Teachers and part-time instructor in labor relations at Indiana University Northwest.

Mr. O'Rourke was interviewed by Liz McPike, editor of the **American Educator.**

* * *

McPike: *So that we can immediately get some grasp of the dimensions of what is happening in Hammond, tell me this: Is there anything that is "off limits" to these school-site committees? How encompassing is their authority, or their potential authority? Is there any issue, any topic, any area of decision making that is hands off?*

O'Rourke: We're not sure. The only constraints that we know for certain are the same constraints that the old system had, that is, limitations — often of a legal nature — that stem from Supreme Court decisions, state and federal laws, school board policies, city regulations, and to some extent, our union contract. But other than those constraints, it's wide open. As long as a school adheres to the process we've developed, the people at that school and in that community have a great deal of control over what happens in their school.

In those instances in which a school-based decision conflicts with an existing school board policy, a special systemwide review council, composed of teachers, administrators, parents and community representatives, meets to see how the SIP proposal could be accommodated. And even in those situations in which a SIP proposal clearly violates state policy, if the SIP committee is very interested in pursuing an idea and convinced that it will improve learning at their school, and if they're able to muster a good argument to support their case, then the school district has said it will attempt to secure a waiver from the state.

A few of us tried in the beginning, when we were brainstorming this whole thing, to assign all possible decisions to their appropriate level. Which decisions could be made at the building level, which had to be citywide, and so forth. Here's what we did. This sounds hilarious in retrospect, but we were feeling our way through many of these questions, and it was a helpful exercise. We actually built a structure, a box, and

Rather than the old model of a few people, a handful of administrators primarily, sitting around trying to develop policy, we open it up.

divided it into different sections. Then we took some small plastic balls, and we colored them various colors; we coded them. For example, the color red would signify a school board decision, blue would be a building-based decision, and so on. We sat and brainstormed all the types of decisions that might arise in a school district: "Well, that's obviously a red ball, that goes in this slot. That's the kind of issue that you could characterize as a building-based decision, we'll color that blue, and all the blue balls go in this slot," and so on with Supreme Court decisions, state directives, etc. We sat there and tossed spheres into the box for several hours.

McPike: *You literally had a lot of balls in the air.*

O'Rourke: Yes, too many, as it turned out. As we tried to visualize how we were going to delineate the proper boundaries of authority — where does this fit, where does that belong, what were the various impediments, the potential conflicts — it occurred to us that the number of decisions was unlimited; we were going to run out of balls.

So we learned through this process that it is not possible — or necessary — to divide up the turf ahead of time. In other words, the program does not say, "These decisions are proper for building-based committees, these are not"; it does not say, "These programs may be altered, but these may not." These divisions will have to emerge as the program moves along. There are no preconceived limits.

There is only one exception to this: We have said that no decision made by one school could have a negative impact on programs or teachers in other buildings.

McPike: *School A couldn't decide to send all its disruptive students to School B?*

O'Rourke: Exactly, although that very constraint might serve as a spark to bring SIP committees from various schools together to try to work something out. There have already been instances in which a recommendation made by one school has forced the district to re-examine its overall policy. We have a SIP team right now at Clark High School working on the problem of student attendance. They have developed a very sophisticated attendance policy that goes beyond the current citywide policy. But we have been advised that this new proposal may be in violation of court decisions because it would mean that students at one high school would be treated differently from the rest of the city's students on a matter that might affect their grades and even their continuation in the program in the building. However,

what first appeared to be a dead end for the Clark team's proposal is now becoming the genesis for a fresh look at the existing districtwide policy. Their ideas are being viewed as perhaps the resolution of a citywide problem.

So, there will be instances in which a SIP team will brainstorm the resolution of a problem at one school that may eventually wind up having very positive effects on citywide policy. That's part of the spin-off that intrigues me. As SIP teams hit roadblocks, they have to start looking at other problems in other buildings or perhaps look citywide. They start thinking in broader terms than their own classrooms or their own schools. So, rather than the old model of a few people, a handful of administrators primarily, sitting around trying to develop policy, we open it up. We now have more people, let's say more brains, more ideas, floating around out there, and out of these ideas, we are developing some very sophisticated approaches to citywide problems, which was really not, quite frankly, the original intent of the school-based decision-making process. But that is happening, and it's very exciting.

McPike: *We haven't said anything about money. How much say-so over spending comes under the SIP committees?*

O'Rourke: Each school receives a certain amount of money over which it has control. Should a SIP committee want to get involved in how that money is spent — rather than leaving it as a unilateral decision by a building administrator, which is the way things previously worked — it can.

As a matter of fact, last year — and I view this as a mistake — last year in an attempt to convince building administrators that the school system was serious about this process, the responsibility for the allocation of funds normally given to the building administrator was turned over by directive from the assistant superintendent of schools to the SIP team in each building. The reason I say that was a mistake is that it violated the spirit and the intent of the process in the sense that the administration is not supposed to set the agenda for SIP committees. The directive was issued with the very best of motives — to show that SIP committees have power over the purse strings — but the decision as to what a SIP committee wants to get into and what it doesn't should really be left up to each committee. If it wants to decide how the money allocated to its school should be spent, it certainly can. Now don't misunderstand me. SIP teams do not control the school district's overall budget. They only have control — if they choose to exercise it — over those monies that are allocated to their particular building.

McPike: *Describe for us in more detail how SIP operates. Is there one SIP committee at each school that defines the issues to be taken up and subcommittees that form around those issues? Does an administrator — the principal or assistant principal or someone — sit in on every committee meeting? And how are final decisions made?*

O'Rourke: The teams are made up of teachers, administrators, parents, and to a lesser degree, students, although there might not be people from every category on every committee, or what we call design teams. The size of the committees varies. In a large high school of, let's say, one hundred teachers, the core team is usually composed of about ten to fifteen people of which the majority would be teachers. There are no hard and fast rules, other than that we try to involve people on the staff who are viewed as leaders and we try to have a well-balanced core team. The subcommittees or design teams are open to anyone who is interested; likewise, any member of the staff can propose that a new design team be formed around any issue of concern. There is also an attempt to identify the strong parent advocates in the community, people who have a long history of involvement in the school and who can be counted on to bring other parents into the process. In addition, where applicable, students who are respected by their peers and who have an interest in school improvement are identified. Especially in the beginning, when things are just getting off the ground, the question of who is involved is critical to the credibility of the whole undertaking.

We believe in this program not only because it will make teachers feel more involved, give them more ownership, but because it will improve learning. That's the bottom line.

This group then takes part in fairly intensive training in communication and group dynamics. The particular method that we use is a modification of a problem-solving process called the Delphi technique, which is designed to help people reach consensus on the resolution of a problem by constantly re-examining the nature of the problem. Similar to the process used by the United Auto Workers and General Motors in their new Saturn agreement, it forces people to continually re-think their positions with a view toward consensus. The training in group dynamics and decision making is important; and it's ongoing, not a one-shot workshop.

This core committee then spends a considerable amount of time developing what we call a vision of excellence for their school: How we can make this school the best possible school, both in the short run and in the long run? Example: At my school, Hammond High, our original SIP team outlined ten specific goals that we felt Hammond High should work toward over, say, a five-year period. Following that, subcommittees were created to try and design programs to meet those goals. One of our target areas was professional development, to do something that might really help teachers. Out of that came a mentoring program through which two of our faculty are released half time to work with teachers who want to become more effective.

As to the question of administrator involvement on the design teams — sometimes they are part of a committee, sometimes not. The math department at my

school is now brainstorming ways to totally reorganize the time periods so that they and their students aren't always working within the confines of a fifty-minute structure. Those discussions — and the final decision — will be made by the math teachers only, unless the schedule changes they devise have an impact on the rest of the school, in which case there will, of course, have to be broader involvement. I want to add here that, if a principal *is* part of a SIP committee, it doesn't mean his or her opinion weighs any differently in reaching a decision than does the opinion of any other member of the committee. The administrator is there not as an administrator but as a peer. For this reason, we have said that a principal should never serve as the SIP committee chairperson.

Both the school administration and the union are committed to finding a way to build this process into the regular school day.

In terms of how a final decision is made, we proceed on the basic principle that underlies the whole system, which is that those who are affected by the decision, those who are closest to it, those who have expertise in the area, those who will be responsible for carrying it out, those who will be living with the decision are the ones who should make it. If the proposal affects the entire faculty, then the entire faculty would be involved. If it's something more limited — a change in the kindergarten program — we encourage input and involvement from the entire faculty, but the actual decision would be made by the kindergarten teachers and whoever else might be part of the SIP design team looking at that issue. In almost all cases, if the SIP problem-solving technique is followed, a group should be able to reach consensus. However, in instances where someone is being unreasonably recalcitrant and where the overwhelming majority wants to move ahead, they do so. Of course, as I mentioned earlier, if a proposal conflicts with an existing state or school board policy or with language in our collective bargaining contract, then a more involved process of resolution kicks in. Let me add here, with regard to the whole program, that it is still quite new. Many situations and problems can't be anticipated; we just have to deal with them as they arise. We are working out the kinks as we go along.

McPike: *Give us some more examples of what the SIP committees have been doing. Are they jumping right into major policy areas, or taking it slow? I wouldn't be surprised if the latter were true, because you're talking about a significant shift in roles, and it might take some time for people who are not used to having authority beyond their classrooms to see themselves as responsible for the larger questions involved in running a school.*

O'Rourke: Well, it varies, but generally you're right. There is a slow but clear shifting of roles and responsibilities taking place, and it takes time. To use my own school as an example again, the first question we took up was how to get students out of the halls and into the classrooms. That was a terribly important issue to us, but dealing with it didn't suggest the same kind of shift in authority that other issues that we later got involved in do — like selecting the new principal for our school, which is something we subsequently played a big role in.

Now that SIP has been in place in a few schools for a couple years and in all schools since September 1985, SIP committees are moving into more and more areas of decision making. I was at a meeting of SIP chairs just recently where the ideas — and the desire to share ideas — were flying left and right. But let me give you just a few examples of what has taken place to date.

Morton Elementary School has formulated a new policy on homework. They've also directed monies to be spent on certain computer equipment they felt they needed, and they've outfitted a portable computer unit for the lower grades.

Kenwood Elementary School has restructured its reading program. Spohn Middle School has moved to a "clustering" schedule for its students, which provides more time for teachers to meet to discuss curriculum and student progress and to have more flexibility to hold conferences with students and parents. Scott Middle School — and I should note here that improving parental and community involvement has been an area stressed by all the SIP committees — has trained a group that it calls "computer moms" to help in the computer rooms. On quite a different level, one SIP team is taking a look at teacher evaluation. They feel that there may be a better, a more effective, a more meaningful way to evaluate teachers than the way it is now done. They are looking for something that not only assures quality but also improves teaching. They've been gathering information from around the country and they've been to Toledo, Ohio, to study the program the AFT local there has put into place.

One more example: Lafayette Elementary School has revamped its whole kindergarten program. The student population at that school is generally from very low-income and highly transient families, and many of the youngsters come to school woefully ill prepared for a traditional program. After a tremendous amount of research by the kindergarten teachers and numerous discussions with as many parents as possible, the faculty voted to establish a junior/senior kindergarten program that will provide a wide range of hands-on activities for children who aren't developmentally ready for a traditional kindergarten curriculum, as well as a transitional first grade.

This example reminds me of something that is happening that I think is very important. Teachers are clamoring for more information, for current state-of-the-art research on every aspect of curriculum, of school organization, of teaching practice. They want the latest

journals; they want workshops; they want to know what other school districts have tried, and what has worked and what hasn't.

McPike: *Because that knowledge has more meaning now that they have more opportunity to use it. It's going to result in something; it's not just an abstraction.*

O'Rourke: Precisely. At that meeting I mentioned before, there was an absolute clamor, a chorus — I'm not exaggerating — "Where can we get the information we need? Where?" And this desire to be in command of the relevant knowledge base is a good development; indeed we know it is crucial to the whole program. We believe in this program not only because it will make teachers feel more involved, give them more ownership, but because it will improve learning. That's the bottom line. How it helps these kids. And that means the decisions made by the SIP committees must reflect the best we know of theory and practice. Time is our biggest obstacle in this regard. The kind of professional involvement we're talking about takes a lot of time.

McPike: *It can't be treated as just an add-on to a regular full schedule of classes. I imagine that to say to a teacher who already feels over-scheduled if not beleaguered by five classes a day and one hundred fifty different students, "Congratulations, you have the right to develop curriculum, formulate the discipline policy, and design a new teacher evaluation program," you might not be greeted with glee.*

O'Rourke: That's exactly right, and although we have been able to arrange a substantial amount of release time for SIP meetings and other SIP activities, a lot of the work has taken place after regular hours. In the long run the program won't be successful if it has to depend on that. We're not into volunteerism; that is not what this program is all about. What it is about is involving the professional faculty in all the decisions that affect learning in their schools, not as a peripheral activity but as a broadened definition of what a professional teacher is. It takes time to stay current with the research and the reading. It takes time to work through ideas with colleagues. We haven't really faced up to this time problem, but both the school administration and the union are committed to finding a way to build this process into the regular school day. This may mean a basic restructuring of our schools.

So, time is the first and foremost obstacle. Another problem in ensuring informed judgments is the accessibility of the information. In my opinion, the quality and speed of dissemination of education research in this country is in a sorry state. The AFT is helping us considerably in this regard through its Educational Research and Dissemination program. Hammond is one of the project sites. A group of our teachers is being trained in the latest research and given readable, practical "translations" of the research that they can share with their colleagues. We are also exploring the development of a relationship with the federally funded education research lab in our area and with local universities.

McPike: *I certainly agree with you that the best guarantor of quality is to put good information in the hands of good people. Have you also built any formal mechanisms of accountability into the SIP process?*

O'Rourke: We wrote specific time limits into our contract governing the length of time any project may stay in place without review. We put a limit of one school year. Example: A project might call for a six-week implementation period, which would be one grading period. The SIP committee says, "Let's try this new method and see if we like it; if we don't we won't continue it." The trial period could be a semester, but it

Inside the Schools: Significant Changes Already

- Kenwood Elementary: Rearranged the school day to ensure a ninety-minute uninterrupted block of time devoted to reading activities.
- Clark High: Proposed a new policy on student attendance, which is now serving as the spark for a fresh look at the overall districtwide policy.
- Lafayette Elementary: Revamped its kindergarten program and established a junior/senior kindergarten and a transitional first grade, which incorporate a wide range of hands-on activities in order to better meeet the needs of youngsters who are not developmentally ready for a traditional curriculum.
- Spohn Middle School: Restructured the school day to allow more time for teachers to meet to discuss curriculum and student progress and to have more flexibility to hold conferences with students and parents.
- Hammond High: Put in place a mentor program through which two teachers are released half time to work with colleagues who want to become more effective in the classroom. Also, the math department is looking at ways to reorganize the time periods so that students and teachers are not always working within the confines of a fifty-minute structure.
- Eggers Elementary/Middle: Set up a reading center for teaching across all grade levels; adopted a course schedule in which the time slots for various subjects are rotated every twelve weeks, thus responding to the needs of children who learn better at different times of the day.
- Morton Elementary: Developed a voluntary, nonthreatening peer evaluation program through which fellow teachers observe and critique colleagues and then cooperatively develop self-improvement plans. SIP committees have also formulated a new homework policy and directed that monies be spent on certain computer equipment they felt they needed.
- Five school committees have been involved in screening and recommending candidates for principal of their schools. In all five cases, the final choice of the SIP teams was accepted.

cannot be longer than a year. The reason we did this is that one of the problems with the old model of school governance was that too many projects and policies got locked in simply due to stagnation: "Well, they've always been there. We've always done it that way." Tradition. So we feel that if something is worthwhile, it can stand annual scrutiny.

Second, the process requires that criteria be established to evaluate each project. How do we know it's working? The criteria must be very clearly spelled out right from the start of the project or the implementation of something new. At the end of the grading period or the semester or whatever the time period, an evaluation based on the agreed-to criteria is presented to the faculty so that they can make a considered decision as to whether the project should be continued. For example, one SIP team at a middle school was concerned about the low level of parent involvement and teacher/parent contact. They came up with a new arrangement whereby parents would have to come to the school in the evening to pick up report cards and meet with teachers. They felt that the evening hours were crucial to parents in this community being able to come. This called for an alteration of the working day for teachers, whereby they came in later in the day and then worked that evening. The faculty voted to implement it for a grading period. At the end of the grading period, they evaluated it. They said it's working based on this data: X number of parents came last year, X number of parents came this year, and look at the difference. By the way, it was a smashing success.

This review process may sound like a small thing, but it isn't. The idea of accountability based on observable, measurable data at the end of a specific time period is so different from the way school districts are typically run, where too often no one knows who made what decision or when or why; someone, sometime, decided that things would be such and such a way and they are. No one's responsible; everyone complains and passes the buck. We're moving away from that attitude.

McPike: *Let me go back to a point that you touched on earlier. Most of the issues taken up by SIP committees are pedagogical ones, or they are questions of school organization, school climate, community involvement, and student behavior. With some exceptions, these are not topics that are typically addressed in a collective bargaining contract. The contract is not going to have language on how to best structure a reading program for the primary grades. But sometimes there will be overlap and possible conflict. You mentioned, for example, the case of a SIP committee that is looking into a new system for evaluating teachers in its school, and I'm sure your contract spells out in fairly precise detail the procedures for teacher evaluation. There are undoubtedly other examples in which SIP proposals conflict with language that you've negotiated in the contract. Now what happens? The master contract says one thing; the SIP committee calls for something quite different.*

O'Rourke: Well, it depends on the situation. If the SIP proposal affects only a small group of teachers at a school and if those teachers and their SIP team are unanimous in wanting to proceed with implementing their idea, that's it, they go ahead. The contract language is not a bar. We would not intervene on the grounds that it was setting a bad precedent for other schools — or on any grounds. We would not pass judgment or impose the language of the master contract if that's not what those teachers wanted. And it would not surprise me that different groups of teachers come up with a procedure or a program or a reorganization that they like better than what is contained in the contract.

We have a very good collective bargaining contract. We have it because we're a very strong union. We've been the bargaining agent since 1970, and we have a membership of 96 percent of the teachers; the other 4 percent pay a representation fee. We have a comprehensive master contract built up over a number of years, and we are very proud of the language in that contract. But that doesn't mean it is the best language for all teachers in all situations. After all, each and every provision of the contract does not and cannot reflect the preference of each and every teacher, unless teachers have totally identical opinions on every topic, which they obviously don't. Where there are divided opinions, the contract can only reflect the majority, and even that, of course, is subject to what we are actually able to negotiate. So for various issues, there's bound to be teachers who would prefer something other than what's in the contract.

The SIP process we've put together, since it is decentralized decision making, makes it possible for more teachers to exercise their judgment as to what they think is best for themselves and their school, while still retaining the strength that can only come through a master contract. Don't forget, this is not a rejection or a weakening of collective bargaining, but rather an expansion. We negotiated language in our master contract — which was overwhelmingly ratified by teachers — that sets forth the purpose and procedures of SIP. In so doing, we have indirectly but quite dramatically expanded the scope of what is bargainable.

Also, because the school-site committees are based on *shared* decision making, we are moving away from the "*us* vs. *them*" stance that is characteristic of traditional labor-management relationships. Solving problems, rather than assigning blame and responsibility to one side or the other, is becoming the operating principle. That is a fundamental shift in attitude.

Now, to get back to your original question, if a SIP proposal affects the entire faculty at a school — let's take the example you used of a new teacher evaluation sys-

The SIP process makes it possible for more teachers to exercise their judgment as to what they think is best for themselves and their school, while still retaining the strength that can only come through a master contract.

tem that conflicts with the collective bargaining contract — then the entire professional staff of the school, and of course I mean teachers and administrators, must vote on the proposal, and they must do so using a specific voting scale. Before I explain how this works, let me emphasize again that before such a vote would be taken, there would be extensive small-group discussion that would probably result in modifications of the original proposal based on the opinions and objections that surfaced. The SIP committee doesn't just formulate an idea and put it to a yes or no vote, up or down. They try to work toward a consensus.

But after that process is completed, there would be a vote. The procedure for this vote, by the way, is spelled out very precisely in our collective bargaining contract. The voting is scaled from zero to five, from very negative to very enthusiastic. Anyone who votes zero retains the right to file a grievance under the normal procedures spelled out in the contract. They may decide not to file a grievance, but they have the right to do so within the regular time limits set forth in the contract, and if they do, the union will back them in the grievance. The resolution of that grievance could result in anything. It could result in the elimination of the SIP project. It could result in an arbitrator or someone along the way saying to the SIP team, "Go back to the drawing board and try to come up with a different approach to try to meet the objections of the teacher or teachers who filed the grievance." And it could also result in exempting the grievant from having to participate in the SIP project.

McPike: *Theoretically, one person could veto a project that 99 percent of the faculty at a particular school want to go ahead with.*

O'Rourke: Yes, that's possible but it's not likely, given the normal group dynamics of people working together and wanting to get along and the discussions that take place as part of SIP. And remember this only applies to those instances in which there are conflicts with our contract, which aren't many. But we may have gone overboard. We deliberately erred on the side of caution. Perhaps it should take a certain percentage of people to block a program, or there might be some way of maintaining existing conditions for the objecting party without stopping the entire program. I'm not sure.

McPike: *As I understand it, in a situation in which a SIP proposal conflicts with the contract, an individual can file a grievance, but the union as an institution can't. That's new, isn't it? Frequently, the union as the protector of the contract would itself file a grievance over a violation of contract language. I recall your telling me a story about how, some years back, as local union president responsible for enforcing the contract, you went into a school and stopped the faculty from implementing a program it had developed because some aspects of that program were in conflict with the master contract.*

O'Rourke: Yes, I still remember that vividly. The school was an elementary school and the teachers were interested in developing a remedial reading program. The socioeconomic level of the youngsters attending that school was poor, and the teachers were discovering that kids were coming to school unprepared.

The program the teachers developed violated a provision of the contract, and because we were worried about setting a bad precedent, the union filed a grievance, intervened, and brought the program to a screeching halt, even though many of the teachers in the building were looking forward to implementing it. I was very uncomfortable with the role I had to play. And I thought right then and there that there must be a way that we can negotiate a master contract that would allow teachers within a given building to deviate from that contract as long as there were certain mechanisms built in that would protect other teachers as well as themselves. I think we have now done that through SIP.

Solving problems, rather than assigning blame and responsibility to one side or the other, is becoming the operating principle. That is a fundamental shift in attitude.

McPike: *The degree of shared decision making between teachers and administrators that you've been describing is a radical departure from the authority relationships and the divisions of responsibility that are typical of almost every school district in this country. What changes in attitude, in mindset, do people have to make in order to be able to work together in this new configuration? Let's start with administrators. The literature discussing the managerial and organizational changes that are taking place in the private sector is full of stories describing the resistance of first-line supervisors, who often view any increase in worker involvement as an encroachment upon their authority, a threat to their power. What has been the reaction in Hammond from principals and assistant principals, and what changes in their attitudes are necessary to make this process work?*

O'Rourke: One of the concepts of SIP is a redefinition of power. The traditional definition revolves around an economic scarcity theory: that power is limited, so that if I have less, you have more, and vice versa. What we're talking about in Hammond is a redefinition, an enlargement of the concept of power. We're not talking about taking power away from one group and giving it to another. We see this new governance structure rather as broadening the base of decision making in a way that empowers everyone involved because it results in better, more informed, more accepted programs and policies, with everyone on board. Building administrators don't lose out if teachers are more enthusiastic and creative, if schools are better run, and if students learn more. They don't lose, they win. Everyone wins.

But, naturally, not everyone sees things this way, and yes, we have had building principals who are wedded to the past and to the old definition of power who have

(Continued on page 46)

THE MYTH OF THE 'GREAT PRINCIPAL'

BY SHARON F. RALLIS AND MARTHA C. HIGHSMITH

AN EFFECTIVE school requires a manager competent in maintenance functions to ensure a positive school climate. A building must operate smoothly; activities must be coordinated; students and teachers must feel safe. At the same time, teachers in an effective school require an instructional leader to support their professional development. Both maintenance and development are essential components of an effective school, and, in most schools, both functions are the duty of a single individual: the building principal. An effective principal has always been expected to keep a school running smoothly; now, the literature of effective schools demands that the principal also spend more time as an instructional leader — visiting classrooms and working with teachers. Should one person do both? Can one person do both well?

We question whether it is practical to expect most principals to perform two roles that are so different and require diverse skills. We suspect that only someone with a split personality and the time of two people can perform both functions well. We suggest that the first realistic step in school improvement is to recognize that school management and instructional leadership are two separate tasks that cannot be performed by a single individual.

At the same time that the effective schools movement has been calling for principals to become strong instructional leaders, teachers have been seeking a stronger voice in regulating and developing their own profession.[1] As professionals, good teachers recognize the need to improve their knowledge and skills, to find rewards in their daily work, and to maintain the quality of newcomers to the profession. Teachers need leadership to make these tasks easier, but current research affirms that teachers are dubious of leadership from the outside.[2] Too often, decisions are made by "untrained principals and superintendents using bogus, one-shot evaluation checklists to standardize teacher behavior"[3] or by school boards with their eyes on the bottom line of the school budget. In other words, teachers desire instructional leadership and recognize the need for it, but they are beginning to demand that it come from within their profession, not from without.

Thus we have two problems: 1) schools need instructional leadership, but the principal's time is eaten up by management tasks; and 2) teachers wish to improve their profession, but they want the leadership and control to come from within their own ranks. We suggest that the solution to the first problem may lie within the second. In this article, we will examine the popular myth of the "Great Principal"[4] and suggest that schools rethink their leadership structure. And we will offer some possible alternatives already in the works in some schools.

IN A good school, management and instructional leadership exist simultaneously. Management means keeping the nuts and bolts in place and the machinery working smoothly. Leadership means keeping sight of long-term goals and steering in their direction. If the machinery breaks down, the job of the leader, though perhaps not impossible, becomes vastly more complicated and difficult. On the other hand, a well-oiled machine can continue to operate without a leader, but it may never get anywhere — except by accident. Because principals control the reward system of the school, evaluate teachers,[5] and are always present, they seem well situated for assuming the duties of instructional leadership. Although these characteristics are often essential to the management of a school, they may not be hallmarks of instructional leaders.

In addition, we doubt that principals can succeed by

Sharon E. Rallis is a research associate in the Center for Evaluation and Research, Rhode Island College, Providence. Martha C. Highsmith is director of research in the Connecticut Department of Higher Education. *This article is reprinted with permission from the December 1986 issue of* Phi Delta Kappan.

ILLUSTRATED BY ROBERT BARKIN

trying to be all things to all people; they are more likely to wear themselves out. The skills of management that are needed to keep order are very different from the skills of leadership that often encourage planned chaos.

In other ways, as well, there are sharp dichotomies in the roles played by principals. Developmental leadership requires:

- vision,
- a willingness to experiment and change,
- the capacity to tolerate messiness,
- the ability to take the long-term view, and
- a willingness to revise systems.

Maintenance management, on the other hand, requires:

- oversight,
- the use of proven methods,
- orderliness, and
- daily attention.

In practice, these distinctions may blur, but the fundamental differences remain. And it is often difficult for teachers to seek instructional guidance with any confidence from the person who signs the pink slips at the school committee's direction, who defends the paperwork required by the central office, and who has just spent three weeks in isolation developing a master schedule. The problem is that the disparity between principals' roles is too great for them to be effective managers and leaders at the same time.

In many of the schools we know, one of the two functions of the principalship is performed superficially or overlooked. Since maintenance functions spring from more immediate needs than developmental functions, the latter needs tend to be passed over whenever time or resources become scarce.

Futhermore, the training and skills needed to manage a building are quite different from those needed to lead teachers. Degree programs for administrators cover policy making, personnel management, finance, school law, and some organizational theory, with little emphasis on instruction and curriculum. Most principals hold degrees in administration, not advanced degrees in teaching or curriculum or philosophy of education. Thus most principals are trained as managers and are simply not prepared to meet the school's needs for instructional leadership.

In addition, the research on effective schools has focused attention on school leadership. A loose collection of research and theory, this body of literature has offered encouragement and hope to schoolpeople struggling with the aftershocks of *A Nation at Risk* and related reports. The message is clear: Schools do make a difference, and there are definitive characteristics associated with effective schools.

MOST EDUCATORS are by now familiar with the main characteristics of effective schools as identified by this body of research. For example, effective schools are characterized by a climate that is conducive to learning — one that is free from disciplinary problems and that embodies high expectations for student achievement. The principal of an effective school tends to be a strong programmatic leader who sets high standards, frequently observes classrooms, and creates incentives for learning.[6]

Although there are methodological problems with some of the research on effective schools,[7] both the public and educators find the commonsense logic of the characteristics it has identified compelling.[8] The literature jibes with our intuitions about good schooling. Because the research makes sense and because it offers the promise of increased effectiveness, individual schools — and even entire states — have been eager to imitate the characteristics identified in the literature.

In this rush toward the model of the effective school, however, the potential for error exists. This potential resides in simplistic interpretations of the recommendations concerning the characteristics of instructional leadership. Acquiring or developing leadership within a school — specifically instructional leadership — requires more than simply exhorting principals to be

strong and to go forth and lead.

School leadership is complicated by the loosely coupled nature of schools.[9] Because schools sometimes seem to be no more cohesive than a series of classrooms held together by a parking lot, a leader may have difficulty identifying a single course of action that will lead toward change and improvement for all components of the school. In fact, change may often result from a serendipitous mix of existing resources, available solutions, and external pressures.[10]

Such loosely coupled settings require leaders who are able and who feel free to manipulate the components of change. An ideal corporate structure includes both a chief executive, who can focus on conceptual issues and on the vision and purpose of the organization, and line managers, who are responsible for the details of day-to-day operation. Yet schools, particularly small ones, have only a single individual, the principal, to play both roles. The result is leadership that can more accurately be characterized as management.

AS A MANAGER alone, a principal has more than enough duties to keep busy. First, he or she must orchestrate all the loosely coupled structures of the building organization so that they work together smoothly. Before teachers can begin to instruct students, custodians must have prepared classrooms and cleaned hallways; classes must be scheduled and students assigned; cafeteria workers must prepare meals; heat and electricity must be working. Most of all, there must be continual communication with parents and with district offices. In most schools, teachers take these management tasks for granted, but the principal must see that they are completed.

We suspect that only someone with a split personality and the time of two people can perform both functions well.

Next, a principal must manage the crisis of the moment. The principal is bombarded with problems that demand immediate responses: "Bobby broke his tooth on the playground." "I'm here to talk with you about Miss Jones — my Susie is *so* unhappy in her class." "Our special ed. bus is broken — how will we get the students from the speech center?" "The fire inspector is here again!" A principal's workplace is seldom the office; it is more often the corridor.

Many of these crises involve the principal in dealings with constituencies outside the school. But even when no crisis looms, the principal must spend a great deal of time connecting the school with, or buffering it against, its surrounding environment. Nearly everyone in the community has "done time" in some school and has a strong opinion about what is right and what is wrong with the neighborhood school. Parents' opinions about the school are often charged with emotion.

But few people on the outside really understand the workings of any given school. People judge a school from what they can readily see combined with what they have always believed. Thus a principal's every act and word must be performed or spoken with the external environment in mind. A principal must be visible, making sure that the culture of the school does not clash with the culture of the community. One principal we know, whose school has been recognized as an excellent school, said that this part of her job is like being a "mother" to everyone in town:

> Probably more often than students or teachers, I have to be there for parents. They often have nowhere else to go, so they come to me with questions about things totally unrelated to their children's education — about doctors, pets, even the roads in town.

Another principal told us that every year he is expected to address the local Lions and Rotary Clubs. "It's kind of a 'state of the school' address to the townspeople," he said. "Without it, they'd wonder if all was well. This way, they believe in us, so they leave us alone."

Finally, the time not spent coordinating activities, handling crises, or dealing with parents and the community is eaten up by paperwork. Routine form-filling is always an aspect of a manager's job, but today's principal knows that he or she must document everything because somebody will undoubtedly want to know the who, what, where, and when or because an auditor or a court might someday need to follow a paper trail.

A principal who accomplishes all this managing will have a school in which teachers can feel free to teach, to experiment, to listen to children. Teachers and children will feel safe — both physically and emotionally. Yet teachers still need constructive feedback and support. With the principal doing all this managing, how can he or she make the time to be an instructional leader? We believe that principals should not wear themselves out trying to do both jobs.

When one of us (Rallis) first became a principal, she felt she was a miserable failure. She found no time for long-range planning, for keeping up with her professional reading, or for supervising teachers:

> A colleague reminded me of *The Man in the Principal's Office*, by Harry Wolcott,[11] and I was able to laugh again at the familiarity of starting each day with a list of things to do that only grew longer as the day progressed. I had been trained as and committed to being an instructional leader for my teachers. Again, I was disillusioned because I simply never could observe classes regularly.
>
> I recall promising to visit a teacher during her 9:20 class the next day. At 9:12 that day a seventh-grader set fire to the bathroom. The following day at 9:30 I had to meet with the Department of Children and Their Families about a case of child abuse. At 9:35 the day after that a parent, who could not be put off, arrived to discuss the health curriculum. Finally, the teacher said, "Hey, you missed some good classes. Come when you can. Just don't tell me to expect you."

Still another obstacle that prevents principals from providing instructional leadership is that many teachers don't want them to; they want them to manage. One principal explained his experience this way:

> Most of my teachers know they couldn't manage the school as I do — they wouldn't want to. But because they recognize my skills as a manager, they doubt my skills as a teacher. Therefore, they don't want me to be the person supervising

them or telling them about how to instruct. Even if I were up on the latest in instructional techniques — and I don't have enough time to read thoroughly in that area — they wouldn't want to listen.

Becoming an administrator separates an individual from the teachers. No longer will that person be one of them; instead, he or she will be seen, not as a source of support or professional guidance, but as a monitor or judge, "checking up" to see if teachers fit the district's mold.

IN ADDITION to being on the inside, what does it take to be an effective instructional leader? Only a few principals consistently succeed in this role. Before the 1950s, principals concentrated their efforts on being the educational leaders of their buildings. During the 1950s and 1960s, as schools and school systems grew larger and more complex, the emphasis of administration shifted toward budget, personnel, and public relations.[12] The necessity for today's principal to play multiple roles can make it difficult, perhaps even impossible, to define instructional leadership clearly.

The distinguishing characteristics of effective instructional leaders are apt to be a set of attitudes and beliefs rather than a set of skills and behaviors. It may be that "theory and research have emphasized too much what leaders do and how they behave and not enough of the more symbolic aspects of leadership — the meanings they communicate to others.[13] An effective school leader must be "visionary"; he or she must be able to see and communicate possibilities and to transform them into beliefs that can be shared by everyone in the school.

One way a developmental leader operates is by inspiring risk taking through a recognition of his or her own successes and failures. This type of leader knows that no one "right way" to teach exists; he or she can accept a variety of approaches. A developmental leader recognizes that, while some initiatives may work, others may fail, and still others may fall in between. The leader also knows that continual experimentation is the only way to find an answer. "Failures" frequently provide more valuable knowledge about learning and more understanding of the craft of teaching than a simple reliance on tried-and-true (and often stale) techniques. To encourage learning from experimentation, one curriculum director we judge to be an effective instructional leader demonstrates this willingness to learn from her own failures: "Yesterday I reminded the group about that career education program I pushed so hard two years ago. What a mistake that was! But we survived that one, so we'll live through other mistakes."

The developmental leader also communicates the need to move ahead, to get somewhere. But he or she will avoid relying on easy maps to reach the destination, since the path for each school is unique. Instead, a developmental leader is a translator, one who reads the unique culture of the school and speaks in a common vocabulary that can be heard and shared by all the diverse constituencies in that school.

A developmental leader may translate through example, using himself or herself as a model. The leader's actions may demonstrate what teaching can be. Or the leader may translate ideas into action through clinical and peer supervision. In this role, the leader is an informer, a problem analyst, a coach.[14] He or she helps teachers become better decision makers because the leader, the teachers, the students, and the learning are intricately intertwined in a network of values, perceptions, and sensations.[15] Above all, this translator is from the ranks of teachers, an insider. A leader's belief would be no more than bureaucratic rhetoric were he or she not willing and able to go into the classroom and put theory into practice. A leader must demonstrate that the risk is worth taking, that talk can become action.

Instructional leadership that is to raise the quality of teaching can and must come from within the ranks of teachers.

Finally, an instructional leader provides a focus for the solution of problems. What is needed more than problem-*solving* behavior is problem-*defining* behavior. By asking the right question, an instructional leader avoids the danger of dealing with only those problems for which there are convenient solutions.[16] One effective instructional leader we know believes that where problems exist, so do solutions. He works hard to link them:

> You have to be sure everyone knows *what* the problems are — and what people are doing. Too often in schools we are all naive; we don't know that we may be creating a problem for someone else — or that our problem may be a solution to someone else's problem.

Training leaders who communicate meanings, set goals, and locate problems that must be solved is not a simple task. These individuals must have deep pools of accumulated knowledge, mediated by practical experiences and sensitivity to human needs. Even someone possessing the necessary qualities and training to be an instructional leader cannot be effective unless someone else is working full-time to manage the school. The leader can empower; the manager must enable.

INSTRUCTIONAL LEADERS as we have described them may sound like rare birds, but some already live in our schools. And teachers are calling for them to be acknowledged.

These leaders are not principals. Principals are better equipped and situated for managing. In practice, effective principals are those whose management protects and enables others to provide developmental leadership.[17] The effective principal creates an environment in which procedural obstacles to innovation are removed, an environment in which teachers are treated as professionals who can themselves improve instruction. Creating such a safe and professional climate is the first step that must be taken in order to bring forward the instructional leaders — the master teachers — who are already present in our schools.

Instructional leadership that is to raise the quality of teaching can and must come from within the ranks of

teachers. We are not referring here to the underused and frequently misunderstood practices of peer supervision or team teaching. Rather, we are advocating the use of mechanisms that identify the experienced master teachers of a school and that grant them responsibility and accountability for working with their colleagues in meaningful systems of professional decision making.

A number of programs supported by teacher unions are promoting working examples of efforts to recognize and legitimize instructional leadership among teachers themselves.

For example, one benefit of the now-defunct Teacher Corps was the creation of in-house systems of support and decision making for teachers. Team leaders were chosen and given the means to work with beginning teachers, as well as with veteran teachers. Decisions that extended beyond the classroom were made by teachers led by other teachers.

Today, a number of programs supported by teacher unions are promoting working examples of efforts to recognize and legitimize instructional leadership among teachers themselves. The Toledo Intern-Intervention Program uses experienced master teachers to train and evaluate beginning teachers and to help troubled veterans.[18] Similarly, the Charlotte-Mecklenburg Career Development Plan releases mentors from teaching duties to serve as advisors, counselors, and evaluators in order to develop professional skills in less-experienced teachers. California's Mentor Teacher Program uses teachers selected by teachers to work in staff development. The Marin County Teacher Advisor Project has successfully facilitated planning, problem solving, and sharing of teaching strategies and has linked resources with teachers, trained them, coached them, and even evaluated them.[19]

These structures are working, although not perfectly. Collegial leadership is fragile and open to many abuses. We know that not all these programs identify and make use of true instructional leadership, which is more than facilitation or counseling. Yet programs that seek to draw on and develop instructional leadership from among *instructors* can address what we see as two major problems in schools: the overworked principal and the demand on the part of teachers to control their own profession.

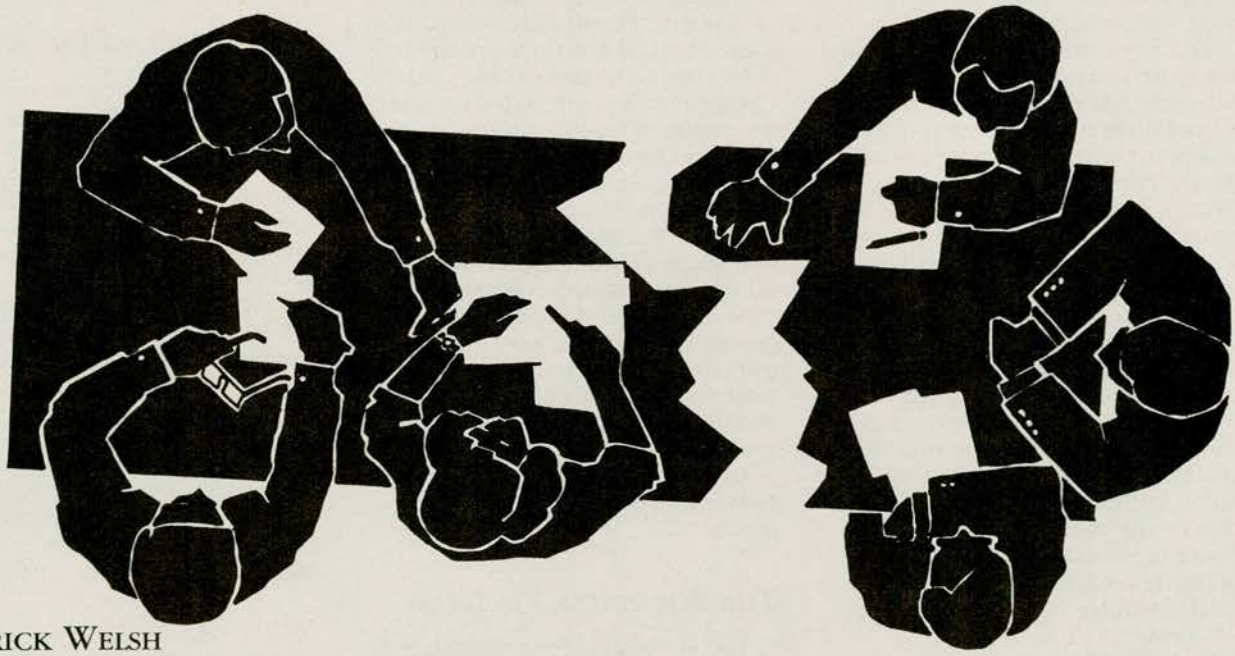
Reformers calling for educational change may criticize this "solution" as too conservative. But schools are, by nature, conservative institutions, and few radical approaches have succeeded on a widespread or long-term basis. Schools and school systems are controlled by complex bureaucracies and have very little latitude in decision making. We submit that the very conservativeness of our approach to school improvement makes it likely to succeed. We do not see that an overhaul of the system is necessary; instead, we propose that schools recognize existing resources and use them to the fullest — specifically, the management skills of principals and the instructional leadership of master teachers.

Establishing peer-based programs of instructional improvement will not only allow principals to concentrate on the demands of managing their buildings but will improve teaching by returning ownership of professional growth to the teachers themselves. Well-managed schools that enable real instructional leaders to empower teachers can create more of the effective schools that reformers are seeking. □

---

1. See, for example, Albert Shanker, "The Revolution That's Overdue," *Phi Delta Kappan,* January 1985, pp. 311-15.
2. *Educational Opinion Poll* (Arlington, Va.: Educational Research Service, 1985).
3. Albert Shanker, "Separating Wheat from Chaff," *Phi Delta Kappan,* October 1985, p. 108.
4. Stewart C. Purkey and Marshall S. Smith, *Effective Schools: A Review* (Madison: Wisconsin Center for Educational Research, June 1985).
5. Madeline Hunter, "Knowing, Teaching, and Supervising," in Philip L. Hosford, ed., *Using What We Know about Teaching* (Alexandria, Va: Association for Supervision and Curriculum Development, 1984).
6. Ronald R. Edmonds, "Programs of School Improvement: An Overview," *Educational Leadership,* December 1982, pp. 4-11; and Brian Rowan, Steven T. Bossert, and David C. Dwyer, *Research in Effective Schools: A Cautionary Note* (San Francisco: Far West Laboratory, 1982).
7. Purkey and Smith, *Effective Schools . . .*; Larry Cuban, "Effective Schools: A Friendly But Cautionary Note," *Phi Delta Kappan,* June 1983, pp. 695-96; and John H. Ralph and James Fennessey, "Science or Reform: Some Questions about the Effective Schools Model," *Phi Delta Kappan,* June 1983, pp. 689-94.
8. Purkey and Smith, *Effective Schools . . . .*
9. Karl Weick, "Educational Organizations as Loosely Coupled Systems," *Administrative Science Quarterly,* March 1976, pp. 1-19.
10. Michael Cohen, James March, and Johan Olsen, "A Garbage Can Model of Organizational Choice," *Administrative Science Quarterly,* March 1972, pp. 1-25; and Weick, "Educational Organizations . . . ."
11. Harry Wolcott, *The Man in the Principal's Office* (New York: Holt, Rinehart & Winston, 1973).
12. John I. Goodlad, *What Are Schools For?* (Bloomington, Ind.: Phi Delta Kappa Educational Foundation, 1979).
13. Thomas Sergiovanni, "Ten Principles of Quality Leadership," *Educational Leadership,* February 1982, pp. 330-36.
14. James M. Cooper, "Supervision Models," in James W. Keefe and John M. Jenkins, eds., *Instructional Leadership Handbook* (Reston, Va.: National Association of Secondary School Principals, 1984).
15. Arthur Costa, "Reaction to Hunter's Knowing, Teaching, and Supervising," in Hosford, p. 201.
16. David A. Erlandson, "Goals for the Schools," in Keefe and Jenkins, eds., *Instructional . . . .*
17. Phillip Schlechty, "District-Level Policies and Practices: Supporting Effective School Management and Classroom Instruction," in Regina M.J. Kyle, ed., *Reaching for Excellence: An Effective Schools Sourcebook* (Washington, D.C.: U.S. Government Printing Office, 1985), pp. 117-30.
18. Cheryl Waters and Terry Wyatt, "Toledo's Internship: The Teacher's Role in Excellence," *Phi Delta Kappan,* January 1985, pp. 365-67.
19. See, for example, the November 1985 issue of *Educational Leadership.*

ARE ADMINISTRATORS READY TO SHARE DECISION MAKING WITH TEACHERS?



ILLUSTRATED BY MARK WILLIAMS

BY PATRICK WELSH

IF RECENT experiences where I teach—T.C. Williams High School in Alexandria, Virginia—are any indication, teachers who expect to have a greater voice in the running of their schools are going to be surprised at the amount of time, patience, and sheer chutzpah the process will demand. And they are going to be disillusioned and at times outraged by fellow faculty members and administrators who seem wedded to the old top-down way of doing things.

A year before the Carnegie Commission's "A Nation Prepared" called for the restructuring of schools, teachers and administrators at T.C. Williams began studying a state-funded project at Varina High School outside of Richmond. At Varina, teachers were given the type of authority envisioned by the Carnegie Report. They played major roles in evaluation, curriculum, and discipline; they had a career ladder, differentiated pay scales, and a powerful voice in all decisions affecting the school. For the most part, Varina teachers and administrators seemed delighted with the changes they had created in the traditional structure.

Inspired by the Varina experiment, a group of teachers at T.C. Williams formed what was called the School Improvement Project (SIP).* The project had the full blessings of the superintendent of schools, the director of secondary education, and the T.C. Williams principal. Juanita Illera, a special education teacher who was instrumental in selling the Varina experiment to our faculty, was released from her teaching duties for the 1985-86 school year to head up the project. Over the course of the year, some thirteen committees were formed to study our most important issues — from minority achievement to staff organization. About one hundred of the school's one hundred seventy members became actively involved. In November 1985, SIP sponsored a luncheon meeting that was attended by our entire staff, school board, and city council members, influential parents, the mayor, and teacher organization leaders. Luncheon speakers extolled the SIP undertaking and emphasized the importance of teacher involvement and shared decision making to the reform movement.

Patrick Welsh has taught English for sixteen years at T.C. Williams High School in Alexandria, Virginia. His recent book, Tales Out of School *(Viking: 1986), is available through local bookstores.*

*Editor's note: Although the term "School Improvement Project (SIP)" is increasingly being used in school districts around the country to describe programs that involve teachers in decision making, the form and structure of the process, and particularly the degree of authority that teachers have, vary widely from district to district.

New York Lawsuit Highlights Growing Tension Between Principals, Teachers Over Their Roles

By Blake Rodman

In a clash that highlights the emerging national debate between teachers and administrators over their roles, administrators in Rochester, N.Y., have filed suit to dismantle a local "mentor teacher" program that they claim violates state regulations and "encroaches" on their jobs as supervisors.

The Association of Supervisors and Administrators of Rochester filed the suit early last month against the city school district and the local teachers' union. It contends that the district's twenty-two mentor teachers are, "without question," performing only supervisory and administrative tasks without the proper credentials to do so in violation of state regulations governing mentor programs.

"Therefore," the suit argues, "the district . . . should be prohibited from continuing this program."

Similar problems have arisen in New York City, where the president of a local school administrators' union last month blasted a suggestion by the president of the city's board of education that a large cadre of highly paid "master teachers" be established to train and assist new teachers.

Such master teachers are not needed because they already exist in the city's schools in the form of principals, assistant principals, and department heads, said Ted Elsberg, president of the Council of Supervisors and Administrators of the City of New York.

What the city needs, he said, is two hundred new assistant principals.

The lawsuit and Mr. Elsberg's statement underscore what a number of informed observers say is a mounting tension among school administrators over the growing responsibility that teachers are receiving as a result of education reform.

'First Signs of Resistance'

"I think these are perhaps the first signs of administrative resistance to the emerging idea of teacher professionalism," said Arthur E. Wise, director of the Rand Corporation's center for the study of the teaching profession.

"Unfortunately," Mr. Wise said, "we will probably be seeing more of this."

He noted that mentor and master teacher plans infringe on the traditional prerogatives of the school principal.

"They introduce a new actor between the principal and the beginning teacher, which some principals find disquieting," he said.

"Change is always threatening," he continued. "People have settled into some classical definitions of the role of teacher and administrator, and the change that is being called for under the rubric of teacher professionalism requires changes in the role of administrators as well as teachers."

For instance, the Carnegie Task Force on Teaching as a Profession last year suggested, among its most radical options, that the control of schools be placed in the hands of groups of "lead teachers" instead of principals. "In such schools, the teachers might hire the administrators, rather than the other way around," the report stated.

Administrators' groups reacted swiftly and negatively to the proposal.

The Rochester Program

The Rochester "Peer Assistance Review" program—put in place for the first time this past fall—was established through a collective bargaining agreement reached last spring between the school district and the Rochester Teachers Association, an affiliate of the American Federation of Teachers.

Under the agreement, mentor teachers, who have no teaching duties, spend all their time helping improve the teaching skills of first-year teachers and tenured teachers who are experiencing difficulties.

In addition, the agreement calls for the establishment of a panel, made up of four teachers named by the teachers' union and three administrators named by the district superintendent.

Among its duties, the panel manages and directs the program, selects the mentor teachers, and monitors the performance of the mentors and the teachers participating in the program.

Other than this review process, the bargaining agreement states, program participants "will not be evaluated in any other way."

Any evaluations of participating teachers conducted by school administrators may be reviewed by the panel, union and district officials said. Final decisions about continued employment rest with the district superintendent, they said.

'This Program Encroaches'

"As far as I am concerned, this program encroaches on the jobs of those currently involved in the evaluation process," said Patricia S. Carnahan, principal of Rochester's East High School and president of the local administrators' association, the group that filed the suit.

"The district and teachers' union are saying that evaluations of new teachers done by administrators are to be shared with the [review] panel, and we are saying 'no.'

"I am not opposed to the concept of a mentor teacher program," she continued. "But I am opposed to the way the district implemented its program. Administrators' needs have been pretty much ignored."

'Schools Will Be Restructured'

Adam Urbanski, president of the Rochester Teachers Association, said his union would have preferred to design the mentor program in cooperation with the administrators' group. He disagreed with Ms. Carnahan's statement that the administrators had never been asked to participate.

"We tried to get their input, but they turned down all invitations and opportunities to participate," he said.

"What we have here is an attempt by administrators to scuttle this program because of fear that it encroaches on their turf," said Mr. Urbanski, who is also a vice president of the A.F.T.

"Schools will be restructured in Rochester and throughout the country with or without the cooperation of administrators. You cannot unring the bell of reform and the raised aspirations of teachers."

Excerpted with permission from Education Week *(Vol. VI, #16, January 14, 1987).*

Now, some eighteen months after those auspicious beginnings, fewer than fifty of the original one hundred faculty members are active in SIP. Many opted out because the committee work took a great deal of time and results were slow in coming. Relatively content in their classrooms, they concentrated on their own teaching and left the process of changing the whole system to others.

Among the fifty who have stuck with the project are many of our most-respected teachers and counselors, along with several parents. They seem committed, regardless of the time or frustrations involved, to bringing about change in a school that desperately needs it. SIP tries to involve teachers in the most democratic way possible. Once a committee makes a proposal, it goes to the SIP steering group. If it is approved, it is then put to a vote of the entire faculty. If a majority of the faculty who vote favor the proposal, it is then presented to John Porter, the principal. Although in effect Porter holds veto power over the proposals made, he has been in tune with SIP and supportive of change. The spirit of the program was clearly intended to be one of respect for the recommendations of the faculty.

The fact that it was conceived, organized, and carried out by teachers with the help of some interested parents made it a special event in the history of our school.

THE SIP committee is, of course, not immune from the difficulties typically confronted by those in positions of responsibility. High on that list is the fact that identifying problems is usually easier than coming up with workable solutions. For example, recently SIP proposed altering our daily schedule of fifty-minute periods to include a fifteen-minute teacher advisory period. Each day teachers would meet with a group of ten to fifteen students drawn from all grade levels. Students would stay with the same teacher advisor throughout their three years at T.C. Williams. Similar programs at Varina and other schools have been successful, and there seemed to be a pressing need for one in our often-impersonal school of more than twenty-four hundred eleventh and twelth graders. Time and time again I've heard students, especially those in the lower tracks, say that "school is just a building where I come to meet my friends." With an advisory program, there would be a chance that every kid in the school would be known individually by at least one teacher who would be in a position to see changes or problems as they arose and would be in close contact with parents. While not taking over the role of guidance counselors, teacher advisors could provide some of the routine advice that students usually seek from counselors, thus freeing overworked counselors (280 students per counselor) to give more time to those who needed their special training.

In order to get the fifteen minutes for the advisory in the schedule, the SIP committee proposed changing from our present system of two fifty-minute lunches to three thirty-minute lunches. Before putting the proposal to a vote, members of the SIP steering committee invited teachers to discuss the idea during their planning periods. The response was overwhelmingly negative. Understandably, most teachers—already short of time during the day to step back from the rush and roar of their students—were not happy at the thought of having their lunch period cut by almost 50 percent. Some who had only easy-to-handle honors students complained that they might get stuck with troublemakers from the lower tracks. A vocational education teacher, I am told, worried that he might end up with some of "those rich snobs" in his advisory. Without bothering to put the matter to a vote, SIP took the teacher advisory program back to the drawing board, where it rests now.

But SIP has also had some victories. On the surface, they may seem insignificant, but in reality they have given the project a firm footing in the school. For instance, a SIP committee recommended that one of our inservice work days be used for meeting with parents. Everyone knew that the traditional back-to-school night was superficial. Parents went through their child's schedule, sitting for ten minutes in each class, but there was never time to discuss students individually. The faculty voted to accept SIP's proposal that teachers be available from 11:00 A.M. to 7:00 P.M. to meet individually with parents on the inservice day following the end of the first quarter this past November. This was hardly a novel idea; many schools across the country have been doing it for years. But the fact that it was conceived, organized, and carried out by teachers with the help of some interested parents made it a special event in the history of our school. The day was an enormous success, and even the most cynical teachers saw that SIP had the power to change things. Other SIP successes include a peer observation program run in conjunction with a local university and the institution of a system whereby teachers can evaluate the work of administrators.

JUST AS the hard work and perseverance of the SIP members seemed to be paying off, the central office made a move that many teachers feel has betrayed and undermined the entire project. In the middle of January, the superintendent's proposed budget for the 1987-88 school year was announced. Along with a substantial pay raise for teachers, there was a proposal that department heads teach a full schedule of five classes, instead of the three or four (depending on department size) they now teach. Department heads would have their stipends raised, but overall the proposal would save $172,000. Most teachers, even those with ineffective department heads, disagreed with the decision. How any one can take care of all the clerical and instructional needs of a department and still do justice to 120 to 140 students for five periods a day was beyond us. Most department heads, barely able to fulfill all their responsibilities under the current system, were furious and planned to resign. But their furor was nothing compared to that of the SIP members. They went berserk over the central office's plan.

(Continued on page 47)

The Texas Teacher Appraisal System: What Does It Really Appraise?

By Harriet Tyson-Bernstein

SPURRED BY the widespread public perception that many current teachers are not as good as they need to be, elected officials around the nation have rushed to mandate tests that would prevent unqualified people from becoming licensed teachers. And a few states, Texas being the most conspicuous example, have moved beyond certification testing. Last year, Texas tested its entire teaching population on basic skills; this year, it has launched an effort to rate all teachers on their classroom performance—ratings that can result in the dismissal of tenured teachers or in promotion up the career ladder.

House Bill 72, adopted in 1984, decreed that the Texas State Board of Education develop a teacher evaluation system. In its haste to put an appraisal system into operation, the State Board borrowed the system that had been developed in Georgia to assess the competency of beginning teachers. Called the Texas Teacher Appraisal System (TTAS), it goes so far as to use training videotapes made for Georgia, featuring teachers with deep Georgia accents.

In Texas, though, the same system is being asked to carry much more freight. An evaluation instrument that was designed to detect minimum competency will also be used in Texas to measure the "exceptional quality" required for advancement on the Texas career ladder plan.

Like other performance assessment systems now blossoming around the nation, TTAS is based on "observable, job-related behavior, including teachers' implementation of discipline management procedures." Testing experts emphasize observable behavior because it is said to be more fair, and also more legally defensible, to evaluate only what can actually be seen and tallied. Moreover, the TTAS (along with Georgia's TPAI and Florida's FPMS) is restricted to "generic" teaching behaviors, said to be common to beginners and veterans alike, to elementary as well as secondary teachers, and to a teacher of autistic children as well as the teacher of advanced-placement physics.

It is hard to quibble with the idea that a test should measure what the job requires. But the validity of a job-related test depends on how "the job" is defined by the test designer. In the case of the TTAS, the universe of teaching has been divided into five generic "domains," which, in turn, have been divided into seventy-one "performance indicators." The seventy-one behaviors measured by the TTAS are primarily the teacher's verbal output during a lecture lesson. They include such basic things as securing attention, explaining the class rules, keeping students on task, presenting information clearly and accurately, defining and explaining new concepts, questioning and prompting students, and summarizing the main points at the close of a lesson. This prescribed sequence of activities and behaviors reflects the educational thinking of the 1980s, which emphasizes teacher control, whole-class instruction, "time on task," and student achievement gains on tests of rudimentary basic skills.

TTAS has substantiated almost all of its required behaviors with recent research citations. The few required behaviors that are unadorned by citations appear to respond to public criticisms of teachers who use bad grammar in class or send illiterate notes home to parents. Two or more grammatical errors will earn a

---

Harriet Tyson-Bernstein is a freelance writer and researcher on textbooks and teacher evaluation and former director of the project on textbook reform sponsored by the Council of Chief State School Officers and the National Association of State Boards of Education.

ILLUSTRATED BY SUSAN DAVIS


Absent/ Below Expectation
Standard Expectation (SE)
Exceptional Quality (EQ)

A teacher who planned to teach a difficult concept over several class periods would be well advised to scrap the plan in the event that the evaluator walks into the room.

teacher a zero for the performance indicator "uses correct grammar." Two errors in "spelling, grammar, sentence construction and/or typographical" are cause for denial of credit for the indicator "demonstrates skill in written communication." In the eyes of most parents, and probably most teachers, a requirement for good grammar needs no research support.

THE TTAS requires that every Texas teacher be observed in class for forty-five minutes four times a year. Two of the four evaluations are conducted by the teacher's principal, and the other two by a trained second evaluator. The second evaluator can be another teacher—in which case the person must be from outside the campus—but it is more common for an administrator to serve as the second appraiser. The evaluators are trained to administer and score the TTAS observation instrument.

The five TTAS "domains" are procedural: instructional strategies, classroom management and organization, presentation of subject matter, learning environment, and growth and responsibilities. Most of the seventy-one "performance indicators" are behaviors that can be most easily observed if the teacher is conducting a lecture-style lesson. Teaching acts are scored as "absent/below expectation," "standard expectation (SE)," or "exceptional quality (EQ)." A teacher receives one point for each "standard expectation" that is observed and one additional point for each "exceptional quality." (Thus the widespread discussion in teachers' lounges about how to earn "EQ points.") After adding up all the points—both SEs and EQs—the teacher's score is calculated for each of the five domains. The domain scores are then added through a complicated conversion process, and each teacher receives an overall rating on a scale from one to five. In order to be placed on the career ladder, the teacher must have an overall rating of four or better at least one year out of three, and a rating of at least three during the other two years. Part of the problem with the whole system is the complexity of the rating procedures and the ambiguous nature of the EQ rating.

A teacher who is conducting a laboratory lesson or working with individuals or small groups will probably not be able to demonstrate enough of the required behaviors to qualify for a higher place on the career ladder. Similarly, a teacher who planned to teach a difficult concept over several class periods would be well advised to scrap the plan in the event that the evaluator walks into the room. If such a teacher were to stick to his original plan, he would not be caught in the act of opening and closing the lesson during the forty-five minute period and thus would not earn points for opening and closing in the prescribed manner. The system as conceived would allow an evaluator to mark an indicator as "not appropriate" for the particular lesson or situation being observed, but in practice, most evaluators ignore this option and operate on the premise that they must actually see all the classroom-based performance indicators named in the assessment instrument. But even if this option were used, it wouldn't add to the teacher's total point score.

Lannie Naegelin, an English teacher and debate coach at Churchill High School in San Antonio's Northeast Independent School District and also a trained "outside" evaluator, says that some teachers stage a lesson that displays all the behaviors, appropriate or not, for the benefit of the evaluator. Other teachers think it isn't fair to the students to interrupt a carefully worked out sequence, and so they teach what they had planned to teach, and risk low ratings. A stimulating teacher who maintains superb discipline can actually be penalized by the TTAS. In order to get enough points toward an "EQ" rating, she would need to provoke misbehavior in order to display her ability to correct it. John Cole, president of the Texas Federation of Teachers, sums up the situation by saying, "It is a leap into absurdity to say that every teacher would do all of these things every day, let alone do them in forty-five minutes."

According to Naegelin, a teacher would have to be seen praising students eighteen times during a forty-five minute session in order to rack up enough points for an "EQ" on domain IV, "learning environment." Naegelin and Carol Ann Smith, a remedial reading teacher at the Oak Crest Middle School, East Central Independent School District, are critical of the instrument's assumptions about the value of praising students in public. Naegelin teaches an honors English class filled with very bright students who have become cynical about praise. For that reason, he avoids the kind of public praise the instrument rewards. Saying, "Mary, that was very good," would earn him points, but the student would probably regard the remark as patronizing. Smith teaches kids at the other end of the spectrum. "I don't do a lot of public praising because my low-track kids think it's phony. Sometimes a hand on a shoulder or a handwritten note on a student's paper means much more," says Smith. Because she is "not going out for EQs," Smith does what she believes is best for her students.

The importance these two teachers attach to credibility is supported by the very research TTAS cites to support its spare generalizations about praise. One of those studies (Brophy, 1981), along with many others not cited, shows that praise has different effects on younger and older students, on boys and girls, and on low and high achievers. The sincerity (and hence credibility) of praise is particularly important for older students. While Naegelin and Smith may not have plowed through the literature on praise, they know from experience that eighteen praiseworthy comments in forty-five minutes will backfire for the particular students they teach. When complex dimensions of teaching must be compressed into a behavioral ckecklist, distortions inevitably occur.

NAEGELIN AND Smith both see some value in the TTAS. Before the present system was installed, they note, few districts evaluated teachers at all, and those that did often based their evaluations on matters unrelated to teaching. "One year I was marked down because my venetian blinds were closed on a hot Texas day," said Smith. While she sees some merit in a uniform system, she thinks that TTAS imposes too much uniformity. "Evaluators," says Smith, "should have a little more leeway to judge a teacher in the context of a particular class." At the same time, she fears that many evaluators don't know what to look for.

Her fears are being confirmed by reports from teachers around the state. There is a wide variance in the number of EQs given from school to school, from district to district. Cole points to several causes for inconsistency within and among school districts. First and foremost, he says, some principals don't know how to evaluate teaching, and many don't want to do it. "Fifty-five percent of Texas principals are former coaches. It is not unusual to find that many of these principals never taught in an elementary school but are now evaluating elementary teachers." Many of them don't know what they're looking at. Cole provides some illustrations:

- A principal who didn't know Spanish evaluated a teacher who conducted the class in Spanish.
- A teacher of autistic children, who needed to spend weeks on a lesson designed to teach children to feed themselves, was marked down for not displaying the prescribed rituals for opening and closing a lesson during the forty-five minute period.
- A principal fell asleep during the evaluation but nevertheless gave the teacher a large number of zeros.
- A kindergarten teacher was marked down for failing to "vary instructional practices." The teacher had just presented the alphabet to students three different ways—visual, auditory, and tactile—but even when the teacher protested the rating and pointed out what she had done, the principal said, "I just didn't see it."

When complex dimensions of teaching must be compressed into a behavioral checklist, distortions inevitably occur.

In that instance, said Cole, the principal might not have understood what he was seeing, but it is equally plausible that he was looking for ways to lower the score. In the Texas system, there are powerful reasons for superintendents and principals in some districts to hold down the number of EQs, according to Cole.

The primary purpose of the TTAS was to provide a valid basis for paying some teachers more than others. During the first year of the career ladder program, eighty thousand teachers qualified for promotion to Career Level II, but the state only provided enough money to fund thirty thousand of the eligible teachers. Some of the larger districts raised local money to pay for the increased salary costs, but smaller and poorer districts didn't. Next year, the state will provide enough money for Level II, but not enough to phase in Level III. Without state funds, some superintendents are telling their principals to give everybody "satisfactory" evaluations so that no new people will qualify for pay increases.

THE TTAS manual says, "no single model of teaching is mandated by the statewide teacher appraisal system," but it is clear that Texas has taken the position that "direct teaching" is the one best model. It rewards teachers who lecture and question a relatively passive class but not teachers who help students struggle through difficult tasks—such as science experiments, English composition, or computer programming—on their own. Even though the system might lead to the removal of some incompetent teachers, the price of that achievement would be high. The kind of teaching rewarded by TTAS tends to improve elementary basic skills test scores in the short run but to inhibit the development of curiosity and higher realms of thinking. In their review of the evidence on teacher evaluation, Darling-Hammond, Wise, and Pease found that "most of the 'behaviors' correlated with the improvement of elementary achievement scores on rudimentary skills are dissimilar, indeed nearly opposite, from those that seem to increase cognitive learning, problem-solving ability, and creativity (McKeachie and Kulik, 1975; Peterson, 1979; Soar, 1977; Soar and Soar, 1976)." To the extent that the TTAS succeeds in forcing teachers into its mold, the twenty-first-century skills that the business community says it wants will be diminished.

Even under the rubric of "observable" and "generic" teaching skills, the TTAS overlooks some important ones that may not be "seeable," but are nevertheless testable or ascertainable. The TTAS does not assess a teacher's ability to construct a coherent philosophy of teaching, the integrity of a teacher's curriculum over the course of a semester, the quality of reasoning that prompts a teacher to do one thing rather than another, the teacher's ability to select appropriate materials, to make meaningful assignments, or to provide useful and timely feedback on students' written work.

In restricting itself to "seeable" generic competencies, TTAS also fails to evaluate the knowledge and skill that lie at the heart of effective teaching—subject matter pedagogy. Written tests of subject matter knowledge typically required for certification do not test the teacher's ability to understand what the students don't understand and to present the material accordingly. Commenting on this contentless approach to teacher evaluation, Lee S. Shulman writes:

> What policymakers fail to understand is that there is an unavoidable constraint on any piece of research in any discipline (Shulman, 1981). To conduct a piece of research, scholars must necessarily narrow their scope, focus their view, and formulate a question far less complex than the form in which the real world presents itself. This holds true of any piece of research; there are no exceptions. It is certainly true of the corpus of research on

teaching effectiveness that serves as the basis for these contemporary approaches to teacher evaluation. In their necessary simplification of classroom teaching, investigators ignored one central aspect of classroom life: subject matter.

There is a wealth of new, as well as old, knowledge on how to teach critically important, and often poorly taught, aspects of reading, mathematics, and science. Cognitive researchers are probing science learning, concept by concept, and coming up with valuable knowledge about why many students fail to grasp certain concepts and what needs to be done to ensure their learning. The accumulating findings on subject matter pedagogy do not lend themselves to the cookbook approach to teaching and teacher evaluation, nor have they been "validated" against narrowly political or practical outcomes. Also, by their nature, they are not "generic," and therefore cannot be applied to the "one-size-fits-all" model. The standardized model is convenient, cheap, and legally defensible according to a timid interpretation of the law. Perhaps for those reasons, these issues so critical to excellence in teaching form no part of the TTAS system or other systems based on the same premises.

The TTAS manual defends its narrow view of teaching by saying that the law required narrowness and that the "state-of-the art of teacher evaluation is not advanced to an operational level in some areas." Yet there are school districts—and possibly there will be a state—that require teachers to demonstrate substantive as well as procedural knowledge and the ability to apply that knowledge in varying contexts.

THE TOLEDO public schools' teacher evaluation plan, launched in 1981, gives teachers and administrators joint responsibility for evaluating two fairly small populations of teachers: first-year teachers and teachers with severe problems who are designated for "intervention." A cadre of outstanding teachers who are released from their classroom duties for up to three years assist no more than ten interns (or intervention teachers) per year. They usually observe each teacher at least once every two weeks and consult even more often on matters of planning, technique, selection of materials, assessment of students, and classroom management. Consulting teachers cover the classes of the teachers they are assisting, thus providing a master teacher model. In that way, also, the consulting teacher gets to know the students in the class and can make more refined judgments about the teaching context. The program matches as closely as possible the grade level and subject area of the consulting teacher to the interns and teachers on intervention status.

At the end of the year (or sometimes longer in the case of intervention teachers), the consulting teachers report to a nine-member intern review board, composed of five teachers and four administrators. The consulting teachers' reports are thick and rich descriptions of the capacities of the teachers with whom they have been working. The review board members—teachers and administrators alike—act as adversaries, challenging the consulting teacher to justify "outstanding" or "unsatisfactory" ratings with concrete examples. When a consulting teacher's report is negative, the review board members probe deeply to determine whether any aspect of it is based on a personality conflict or a difference in teaching philosophy. The review board's final recommendations must muster a two-thirds majority vote.

The Toledo model, which emphasizes a deep and holistic assessment of teaching, is an alternative to state models (Texas, Georgia, Florida) that emphasize uniformity and reliability at the expense of professional accountability and validity. The Toledo model works well. It provides a rich and meaningful induction system—a rarity in public education; intense remediation for teachers in trouble; and if they fail to meet the standard, a basis for dismissal. Although a teacher could challenge a dismissal in court (there have been only two such instances), they are unlikely to do so. Respected peers have given them massive assistance; their case has been documented in depth; and both union and management have taken responsibility for both procedural fairness and substantive judgment.

By conserving scarce resources for the two groups of teachers who need help most, Toledo is able to provide meaningful help and true evaluation. Although the majority of teachers are rarely evaluated, the rigorous induction system will, over time, decrease the need for annual evaluations and probably also the number of teachers who are poor enough to require intervention.

MINNESOTA, LIKE other states, is responding to public criticism about the uneven quality of its teaching force. While states such as Texas have tried to define a standard model of teaching and an inspection system that determines whether teachers comply, Minnesota aims to establish an interlocking system of teacher preparation, rigorous internship, and in-depth testing, all aimed at producing teachers who can be trusted to operate independently. While the Texas model sees teachers as a labor force that carries out detailed directions, the Minnesota model sees them as professionals who are well enough trained to make independent decisions.

If Minnesota ultimately adopts the plan it is developing in consultation with the Rand Corporation, prospective teachers will be required to have a B.A. before entering teacher-training programs; to pass tests of reading, writing, mathematics, and subject matter before becoming interns; to learn teaching in a carefully supervised, progressively responsible internship; and finally, to pass both oral and written tests of teaching skills.

Evaluating teachers in a single job context, by occasional observation, is inherently invalid and unreliable.

The Minnesota plan is noteworthy in that it does *not* propose to evaluate teachers in class. The rationale is impressive. First, no *other* profession evaluates on-the-job performance as the basis for state licensing, and neither should the teaching profession, says Arthur Wise, director of the Center for the Study of the Teaching Profession at Rand. He argues that teachers are not licensed to teach a particular group of children, such as "fifth graders at Kennedy Elementary," but to teach children who "differ with respect to grade level, general intellectual ability, stages of cognitive development, educational opportunity, socioeconomic status, family attitudes toward education, and many other characteristics." Random factors may diminish the teacher's performance. The curriculum may not be appropriate to the class, or to individuals in the class. The textbooks may be poor. The principal may not have established a good learning climate. Evaluating teachers in a single job context, by occasional observation, is inherently invalid and unreliable, says Wise.

Other professions are able to assess their members with rigor and depth. The teaching profession can do that too.

To get around that problem, Minnesota plans to test teachers as other professions test their members: *after* they have had several years of structured, carefully supervised internship. Interns will not be simply thrown to the wolves in a particular class, but given an adequate variety of students and types of classes, and teaching loads commensurate with their developing ability to exercise judgment. In addition, interns will attend regularly scheduled lectures, seminars, and clinical conferences, observe other teachers, and read required assignments.

After successful completion of the internship, the candidate for a continuing license will take the Test of Teaching Skills. Instead of testing discrete behavioral skills or recall of prescribed responses, Minnesota will test the candidate's skill in analyzing teaching situations and producing effective responses. Instead of observing a teacher in only one context, the candidates will be given the same (or equated) test under standardized conditions. During one or two days of testing, candidates will be asked to respond to a series of teaching situations, by videotape or simulation, and to respond both orally and in writing, in ways that test their ability to be effective in teaching children with diverse educational needs. Merely to require teachers to produce a coherent rationale for a teaching strategy, or an essay synthesizing many aspects of a given situation, would in itself guarantee a level of competence that is not now guaranteed by multiple-choice tests or fragmented observations.

THESE BRIEF sketches of two models point to the possibility of better ways of helping and evaluating teachers. Research has established that teachers know they need help and welcome evaluation—even as they fear it—that respects the realities they encounter. The teachers interviewed for this article unanimously said they "hoped" the TTAS was "really" designed to help them improve and stay up to date, but few believed it would have that effect. A system that imposes one standard model of teaching, that fails to recognize important differences in the way various subjects and children need to be taught, that is blind to context, and that is tied to salary cannot support a coherent improvement program nor can it discriminate between good and excellent teachers. At best, it will help remove those incompetents who are not clever enough to mount a forty-five minute dog-and-pony show.

The most negative long-term consequence of TTAS, though, is the likelihood that teachers will find their work less satisfying because they will have lost the incentive to make professional decisions in the interests of the students they teach. Some will leave teaching, and many more will project a lack of enthusiasm that will discourage the best and brightest from becoming teachers.

The TTAS manual defends its narrow, generic view of teaching by saying that the law required narrowness and that the "state-of-the-art of teacher evaluation is not advanced to an operational level in some areas." But other professions are able to assess their members with rigor and depth. The teaching profession can do that, too.

An evaluation system based on a respectful definition of teaching, that conserves its resources in order to evaluate the teachers who need the most help, that is conducted by expert peers who are given enough time to understand the context could go a long way toward improving the schools and restoring the public's trust in teachers. Texas should go back to the drawing board and design a system that fulfills its stated purposes. □

References

Brophy, Jere. "Teacher Praise: A Functional Analysis." *Review of Educational Research,* Spring 1981. Washington, D.C., American Educational Research Association.

Darling-Hammond, Linda; A. Wise; and S. Pease. "Teacher Evaluation in the Organizational Context: A Review of the Literature." *Review of Educational Research,* Fall 1983, p. 296. Washington, D.C., American Educational Research Association.

Shulman, Lee S. "Those Who Understand: Knowledge Growth in Teaching." *Educational Researcher,* February 1986, p. 13.

Wise, Arthur; L. Darling-Hammond; M. McLaughlin; and H.T. Bernstein. "Case Studies for Teacher Evaluation: A Study of Effective Practices." Washington, D.C., The Rand Corporation, 1984.

Wise, Arthur; L. Darling-Hammond; and S. Klein. "Evaluating the Teaching Skills of Beginning Teachers." Report to the Minnesota Board of Teaching, November 1986, Washington, D.C., The Rand Corporation.

THE 'EXCEPTIONAL' MICRO: USING COMPUTERS TO ASSIST HANDICAPPED CHILDREN

By Susan Elting and Nell Bailey

THE MICROCOMPUTER is a versatile piece of technology. A standard system, equipped with a keyboard, monitor, and printer, can serve a variety of purposes simply by changing the software. In the school setting, that basic unit can be used by the administrator to prepare written or budget reports, by the secretarial staff to maintain daily attendance records, or by the teacher to track and report student progress.

In the classroom, the computer can be just as versatile. It might be used by a kindergarten student to learn colors and shapes, a third grader to master math facts, a junior high student to write a composition, or a high school senior to learn computer programming. All these tasks are accomplished by using different software.

Microcomputers offer even more possibilities when the standard hardware configuration is modified. The computer becomes a telecommunication terminal when a modem is added or a desktop publishing system when the dot matrix printer is replaced by a new laser model. When a joystick is used instead of the keyboard, the micro is transformed into a home entertainment unit for young and old alike.

It is this ability to change or extend the capabilities of the hardware that has made the microcomputer such a promising tool for children with disabilities. The use of special techniques, tools, and equipment to help students learn, communicate, or move about is not unusual in special education. But the microcomputer is the first tool that, properly modified, can serve very different needs for handicapped individuals.

Children with learning, sensory, and physical disabilities can benefit from the assistive use of microcomputers. With changes in the standard hardware, the computer can be used as an instructional alternative for the learning-disabled child, a communication aid for a nonvocal child, or a device to aid mobility for a physically handicapped student.

There are two basic reasons for modifying the standard computer system for handicapped users: The first is simply to provide easier and more efficient access to computer-based learning. The second is to enable a child to do something, such as communicate or move about, that a nonhandicapped child would do without a computer. The computer is used as a tool to compensate for a disability.

For the learning-disabled child, the goal of computer use is most often to assist learning in the classroom. Over 85 percent of the microcomputers found in special education programs are used for instruction of students. With computer-based instruction, the goal is to focus on the content of learning, not the skills needed to operate the computer. Because of deficits in reading, coordination, or attention, the standard computer presents some real barriers for these students. Many of these problems can be solved with software alone. But for some children, alternative input or output devices that

Susan Elting is project director and Nell Bailey is program specialist with the federally funded Center for Special Education Technology at the Council for Exceptional Children in Reston, Virginia.

COMPUTER LEARNING WITH A SIMPLE SWITCH
This youngster has cerebral palsy. Like many young people his age, he's very enthusiastic about computers. Because of the lack of muscular control in his hands and arms, he is unable to use a standard keyboard. But he does have voluntary control of the muscles in his face and neck. His computer has been modified so that he can enter information with a simple push switch. It is attached to his wheelchair and is activated when he presses his head against the flat surface of the switch.

ALTERNATIVE KEYBOARDS
Alternative keyboards are typically larger than standard ones and have a touch-sensitive surface. These "expanded" keyboards are particularly useful for those who lack the fine muscle control needed to use the regular keyboard. The cells are programmed to produce the words and phrases most often used by the child to communicate.

are less distracting and easier to deal with than the standard keyboard or screen display are the only way to provide access to computer-based learning.

For children with physical disabilities, the computer may be used as an instructional tool, but more often the goal is to allow the child to communicate or to manipulate objects in the environment. A physical disability may limit a child's ability to move, control muscles, or even speak. For these youngsters, the use of assistive aids and devices is a necessity. The microcomputer can be used by a nonverbal child as a way of communicating with others in writing or with synthesized speech. For many of these students, independent living skills are an important educational goal. Computer-based devices that allow control of everyday household appliances mean a more independent lifestyle for the physically handicapped person. Whether computers are used to communicate, aid mobility, or to manipulate the environment, some modification of the standard hardware will be necessary.

For blind and partially sighted students, the microcomputer is both a learning aid and a compensatory device. Traditional instructional materials that rely on the reading of printed text are difficult if not impossible for these children to use. Techniques and tools that enlarge print or convert it to braille or auditory output are commonly used by visually impaired learners. A microcomputer can be modified to provide the special tools these children need to learn or communicate with sighted people.

Exactly how a microcomputer is modified to meet the needs of a child with a learning, physical, or sensory disability varies from child to child. But it is usually accomplished by changing the standard means of input, the keyboard, or the common output modes, the monitor or printer. For some individuals, it may be necessary to change both the input and output device. In some cases, common devices and peripherals can be used; in other situations, it may be necessary to use devices specially designed for handicapped computer users. There is an increasing number of products on the market, and while this is an encouraging development, it means that choosing the right device for a child becomes more complex.

Input Devices

Alternative input devices are used either in conjunction with the standard keyboard or in place of it. There are a number of options including "off-the-shelf" devices, keyguards, alternative keyboards, switches, and voice recognition units.

"Off-the-shelf" devices. One simple and often very satisfactory way to bypass the keyboard is with an "off-the-shelf" device. Some common examples are the joystick, game paddle, touch pad, and light pen. Each can be used as an alternative to the keyboard when entering information into the computer. These devices are referred to as "off-the-shelf" alternatives because they are widely used and, therefore, generally available in computer stores. They are often used to provide computer access for learning-disabled or very young handicapped children.

Keyguards. The keyguard is the most common modification for a physically handicapped student. It is a plastic sheet or plate containing holes that correspond to the key positions and fits over the keyboard. Keyguards may be used alone or in combination with other devices. By leaning on the guard or using it to guide finger movements, the user can control keyboard entry. If hand and finger coordination is particularly poor, the student might use a mouthstick or headpointer rather than fingers to depress keys. In this case, the keyboard guides the movement of the pointer.

Alternative keyboards. For students unable to use

Resource Roundup:

Finding the Right Assistive Device

As the interest in and use of assistive devices increase, the need for services to support educators, parents, and handicapped individuals has become more and more apparent. The selection of a device for an individual is a complex process, and the assistance of trained professionals is often necessary. In recent years, national centers, state education agencies, large school districts, hospitals, rehabilitation centers, and national organizations serving specific populations have initiated programs to support the assistive use of technology. These programs provide a range of services including information, individual assessment, and training. Some actually design devices for individuals; others have device loan programs. The resources listed below are representative of the kinds of services that are becoming increasingly available across the country. This list is not exhaustive, and you may want to check with your state or local education agency to see if a center has opened in your area.

National Centers

Assistive Device Center.
California State University, 650 University Ave., Suite 101B, Sacramento, CA 95825.

This center has an extensive database of information on devices to aid communication, mobility, manipulation, and computer access. Information on specific devices and products provided upon request.

National Technology Center.
American Foundation for the Blind, 15 West 16th Street, New York, NY 10011.

This center evaluates new and existing devices for the blind and visually impaired. Results of the product evaluations are available on request. Consumers can also request names and comments of users of adaptive equipment. No charge for information services.

Abledata, National Rehabilitation Information Center.
The Catholic University of America, 4407 Eighth Street, NE, Washington, DC 20017.

A computerized listing of over 13,000 commercially available products—communication, mobility, and sensory aids, including products geared to helping the handicapped function in a work setting. Nominal fee for database searches.

The Center for Special Education Technology.
The Council for Exceptional Children [CEC], 1920 Association Drive, Reston, VA 22091.

Provides free information on selecting and using devices for handicapped children, as well as specific product information. Toll-free number is: 1-800-345-TECH.

State Centers

Communication Systems Evaluation Center [CSEC].
1600 Silver Star Road, Orlando, FL 32804.

This evaluation center assists public and private school personnel and parents in the selection of effective and appropriate augmentative communication systems or devices for nonvocal/unintelligible students. Students are referred by local education agency designees. Any Florida student between the ages of three and twenty-one is eligible for this evaluation service.

MissouriLinc.
University of Missouri-Columbia, 609 Maryland, Columbia, MO 65211.

This university-based program has an assistive device services component that provides information, training, and technical assistance on the use of assistive technology for Missouri educators.

PAM Assistance Centre.
601 West Maple, Lansing, MI 48906.

The PAM Assistance Centre maintains a database on assistive devices old and new, what they are, what they cost, and how to obtain them. All ages and handicapping conditions are served, and the center has information on over ten thousand products. This center is primarily a service for Michigan residents; out-of-state requests are honored.

Pennsylvania Assistive Device Center [ADC].
Central Pennsylvania Special Education Resource Center, Elizabethtown

the standard keyboard, other input devices are available. These alternative keyboards may be controlled by touch, eye gaze, or voice. Large expanded keyboards are used for those who lack fine muscle control. These devices usually have touch-sensitive membrane displays. Rather than individual letters, the cells on the keyboard might represent commonly used words or phrases. In this way, the user can formulate a message without having to enter one letter at a time. Another alternative to the standard keyboard is to emulate a keyboard on the computer screen. A pointing device is then used to scan the letters on the screen and select from the keys. Such scanning devices can be activated by pointers, switches, and even the movement of the eyes.

Switches. Another way to control computer input is to use a simple electrical switch in place of the keyboard. This alternative is particularly useful for physically disabled students who have limited control of muscles and body motion. The switch can be controlled by any body part such as the eyebrow, mouth, head, or foot. The computer is activated when pressure is exerted on the switch. This versatile alternative can be used for computer learning, communication, and environmental control. However, selecting the right switch requires very careful assessment of the child's ability to control muscles and repeat movements.

Voice recognition devices. Voice input is another promising alternative for students with learning, vision, and physical disabilities. Voice recognition devices

Hospital and Rehabilitation Center, Elizabethtown, PA 17022.

This center provides workshops, inservice training, and individual consultations concerning the application of assistive devices in school settings. The ADC also works directly with a clinical population of hospital patients to design and implement exemplary assistive systems. A new loan program makes devices available to individual students for use in the classroom and at home. Services available to any school district in Pennsylvania.

Hospital-based Centers

Center for Applied Special Technology (CAST).
North Shore Children's Hospital, 57 Highland Avenue, Salem, MA 01970.

The center operates an Adaptive Equipment Clinic. It is a technology-based evaluation and training service for physically or sensorially disabled children and adults. Specialized services include electronic switch adaptations, augmentative communication devices, mobility aids, positioning, computer access, adaptive toys, and training in the use of adaptive equipment.

The Rehabilitation Engineering Center (REC).
Children's Hospital at Stanford, 520 Sand Hill Road, Palo Alto, CA 94304.

The purpose of the REC is to evaluate a person's abilities and needs and to recommend, design, or adapt equipment. Training in the use of the device is also provided. Recommendations include commercially available aids and/or custom devices by REC's technical departments.

The Rehabilitation Technology Center.
6535 East 82nd Street, Suite 102, Indianapolis, IN 46250.

This center provides services in augmentative and alternative communication, seating and positioning, mobility, environmental control, computer access, and home and job-site modifications. Solutions to problems may range from simple adaptations of equipment to fabrication of one-of-a-kind devices. Referrals for an evaluation may be made by physicians, teachers, clinicians, or other allied health professionals.

The Rocky Mountain Regional Center for Augmentative Communication.
Boulder Memorial Hospital, 311 Mapleton, Boulder, CO 80302.

This center has a variety of electronic and nonelectronic aids to assess a client's needs to determine whether an augmentative communication system is needed. A multidisciplinary team is involved in the initial assessment.

Rehab Centers

Trace Research and Development Center.
Waisman Center, University of Wisconsin-Madison, 1500 Highland Avenue, Madison, WI 53706.

In cooperation with the Communication Aids and Systems Clinic at the University of Wisconsin, the center studies and develops techniques and aids to augment vocal skills of clinic patients. The center collects, documents, and disseminates information on these and other communication aids and techniques. Contact the center for a current publications list.

National Organizations Serving Specific Populations

The American Speech-Language-Hearing Association (ASHA).
10801 Rockville Pike, Rockville, MD 20852.

Association for Children with Learning Disabilities (ACLD).
4156 Library Road, Pittsburgh, PA 15234.

Association for Retarded Citizens (ARC).
2501 Avenue J, P.O. Box 6109, Arlington, TX 76006.

International Society for Augmentative and Alternative Communication (ISAAC).
P.O. Box 1762, Station R, Toronto, Ontario, Canada M4G 4A3.

National Easter Seal Society.
2023 West Ogden Avenue, Chicago, IL 60612.

Rehabilitation Engineering Society of North America (RESNA).
Suite 700, 1101 Connecticut Avenue, NW, Washington, DC 20036.

United Cerebral Palsy Associations (UCPA).
66 East 34th Street, New York, NY 10016.

allow the computer to understand what a person is saying. With this capacity, it is possible to bypass the keyboard entirely. Current devices recognize both isolated utterances and continuous speech, so information can be entered simply by speaking into a microphone. For individuals with severe speech limitations, a speech recognition device can be programmed to accept a single utterance or sound. Most systems are speaker dependent; that is, they respond only to voice patterns preprogrammed by the user.

Output Devices

Alternatives to the standard output devices are particularly important for visually impaired and blind users. These devices are also useful to students with learning disabilities and for very young handicapped children. Speech synthesizers, large-print displays, and braillers are common output devices for handicapped computer users.

Speech synthesizers. A speech synthesizer is an alternative to the standard output of the monitor and printer. The synthesis is provided by a microchip installed in the computer or by a separate peripheral plugged into a port on the computer. Instructions and text, displayed on the screen, can be read aloud. The hardware may require special text-to-speech software to convert the text on the screen to speech. For those with poor reading skills or with visual impairments, this spoken output may be essential to learning or communicating.

Large-print displays. There are a number of devices that are used to magnify standard printed text on the computer monitor. One option is to enlarge the computer text by placing a specially designed lens in front of the screen. For even greater magnification, there are special monitors and software programs that display enlarged text. Devices that magnify text rely on the user's remaining vision and are most suitable for the partially sighted.

Braillers. Braille has served as the written language of the blind for more than one hundred years. It is a language that relies on the sense of touch, not vision. Specially designed printers have been developed to provide "hardcopy" in braille for blind computer users. These devices perform much the same as a standard printer, but instead of printing the characters in ink, the text is embossed on special paper. Other devices, referred to as paperless or refreshable braillers, print out braille characters on a tape. The user can read a message and then erase it from the tape.

WE HAVE all experienced instances when the capabilities of the computer have eased our workload, simplified our chores, and brought large banks of data to our fingertips. But for children with handicaps, computer technology can be pure magic. It can open up the world to them, giving them access to those seemingly simple abilities that nonhandicapped people take for granted. For the severely disabled, many of whom have been isolated inside their own minds, the computer can help unlock their own abilities to speak, read, and write. That most basic of all human needs — to be understood — becomes possible.

The computer is a patient and kind learning tool. It allows handicapped students to proceed at their own pace, to have each step of their success recognized and rewarded, and when they fail, to do so in private.

Now, with the increasing availability of assistive devices, and with the bias of the high-technology industry toward the general learner beginning to give way, the enormous potential of the computer can reach more and more handicapped children. □

Enlarged Print
For individuals with low vision, there are devices that enlarge the size of the characters on the screen. Letter size can usually be varied, with letters enlarged up to two inches if necessary.

Communicating with the Aid of a Keyguard and Head Pointer
This student's disability affects both his muscular control and his speech. His computer serves as a communication aid, allowing him to express himself in written messages on the computer screen. By using a keyguard and a head-pointing device, he can enter information directly through the standard keyboard. Special software is used so that a single keystroke produces a word or phrase rather than a single letter. The software has been preprogrammed with the vocabulary he uses most often to construct messages.

Days Inns puts you in a class by yourself with a 10-25% discount!

Days Inns has an offer teachers can't refuse — free membership in our special School Days℠ Travel Club. This club is just for teachers and staff. And includes these great benefits: • 10-25% off standard room rates at over 430 Days Inn hotels nationwide • Special toll-free numbers for reservations and club services • Car rental discounts • Late check-out • Check-cashing privileges with an American Express® Card • A reduced group rate for 5 or more rooms.

All at participating Days Inn® hotels and motels in 42 states. Each with big, comfortable rooms. A swimming pool at most locations. And more. Send your application to the School Days Travel Club now.

Join The School Days Club Today. It's Free!

Yes, I'm very interested in joining the School Days℠ Travel Club. Please hurry and send me my *free* membership card and more information about the benefits the School Days Travel Club has to offer.

Name_____ (_____)
(First) (Middle Initial) (Last) (Phone)

Address_____
(Street) (City) (State) (Zip)

School/Educational organization_____

Please send me _____ applications so I can give them to my friends.

Married _____ (a) Male _____ (c) 3AAA123
Single _____ (b) Female _____ (d)

Age Group:
Under 30 ___ (e) 40-49 ___ (g)
30-39 ___ (f) 50 and over ___ (h)

Send application to: School Days
2205 23rd Street Harlan, Iowa 51593

DAYS INN®
We're Right Where America Wants Us.™

Or Call 1-800-344-3636.

For more information circle 3 on Product Information Card.

WAIT TIME: SLOWING DOWN MAY BE A WAY OF SPEEDING UP

By Mary Budd Rowe

THIS PAPER describes major outcomes of a line of research that I began nearly twenty years ago on a variable called wait time. To put it briefly, when teachers ask questions of students, they typically wait one second or less for the students to start a reply; after the student stops speaking, they begin their reaction or proffer the next question in less than one second. If teachers can increase the average length of the pauses at both points, namely, after a question (wait time one) and, even more important, after a student response (wait time two) to three seconds or more, there are pronounced changes (usually regarded as improvements) in student use of language and logic as well as in student and teacher attitudes and expectations. There is a threshold value below which changes in wait time produced little effect and above which (2.7 seconds) there are marked consequences for both teachers and students.

The kinds of circumstances in which wait time one and two have been studied span elementary through college classrooms, mostly in science and literature. They range from docent programs in museums to rather diverse special education contexts (e.g., classrooms involving the mentally and physically handicapped and the gifted and talented).

An adaptation of the wait time concept for use in lectures appears to yield outcomes comparable to those mentioned above for classroom discussions, specifically, improvement in comprehension and attitude. Applications of wait time have been diverse, but the underlying patterns that make the variable so useful across such disparate contexts appear to be the same and will be discussed briefly later.

The wait time variable has an intuitive appeal. It makes sense to slow down a little and give students a chance to think. Unfortunately, it is difficult for many people to get average wait times up to three seconds or longer. The present one-second or less wait times appear to be almost immutable and are definitely not culture dependent (Chewprecha, Gardner, and Sapianchi, 1980). Discussion of the difficulties encountered in establishing longer wait time patterns will illustrate that what appears to be a simple technique that makes a fundamental impact on the reasoning, roles, and norms in a classroom is, in fact, difficult to learn.

ILLUSTRATED BY BOBBI TULL

Mary Budd Rowe is professor of science education at the University of Florida and president elect of the National Science Teachers Association. This article is reprinted with minor abridgment from the Journal of Teacher Education *(January-February 1986), published by the American Association of Colleges for Teacher Education, with permission of the publisher.*

Effects of Wait Time on Students and Teachers

To "grow," a complex thought system requires a great deal of shared experience and conversation. It is in talking about what we have done and observed and in arguing about what we make of our experiences that ideas multiply, become refined, and finally produce new questions and further explorations. While listening to tape recordings of high school biology students discussing laboratory findings (Rowe and Hurd, 1966) and the conversations and "talk" in elementary school classes during a "hands-on" science program (Rowe, 1968; 1969a, b), I made two observations common to both sets of data. The pace of interaction between teachers and students was very rapid for both elementary and high school classes, except for three recordings in each group where the pacing seemed slower and the level as well as the quantity of student participation was greater. Wait time one, the interval between the end of a teacher question and the start of a student response, was three to five seconds on the average for the three special tapes in each set. For all the other recordings, wait time for pausing was less than one second and was too brief to measure reliably with a stopwatch.

Effects on Students

To help document the astonishing speed at which teacher and student exchanges took place, I fed the sound from the tapes into a servo-chart plotter. The servo-chart plotter made a graph of the speech patterns and pauses and revealed another pause location that might be important, wait time two. Wait time two, the accumulation of pauses between student utterances before the teacher speaks again, in most of the recordings averaged 0.9 seconds, but on the three special tapes it exceeded three seconds. Servo-chart plots showed substantial pauses in the body of student explanations. Quick reactions by teachers appeared to cut off student elaboration. At this juncture it was necessary to determine if these protracted pauses of three seconds or longer, wait times one and two, played a part in producing desirable student outcomes observed in the three tapes at each level or whether they were just interesting anomalies. To answer that question for the elementary group, teachers and staff members in the trial center and I began a series of studies that lasted a number of years and involved both small groups of students and whole classes. We manipulated wait times one and two separately and then together to observe what happens (Rowe, 1972, 1973; 1974a, b, c, d, e; 1975). In addition, I monitored the consequences of protracted exposure to longer wait time schedules in order to examine both immediate and long-term effects. I found consequences for both students and teachers, highlights of which are

listed below and all of which were subsequently verified by other researchers.

1. The length of student responses increases between 300 percent and 700 percent, in some cases more, depending on the study.

Under the usual one-second average wait times, responses tend to consist of short phrases and rarely involve explanations of any complexity. Wait time two is particularly powerful for increasing the probability of elaboration.

Hanna (1977) did a study of the impact of extended wait time on the quality of primary student responses to stories. Independent judges rated the quality of student responses higher under the three-second treatment than under the control format of one second.

2. More inferences are supported by evidence and logical argument.

Under one-second wait times, the incidence of qualified inferences is extremely low, but it becomes quite common at the three-second wait time threshold (Anderson, 1978, Arnold, Atwood, and Rogers, 1973).

3. The incidence of speculative thinking increases.

4. The number of questions asked by students increases as does the number of experiments they propose.

As a rule, students ask questions infrequently, and when they do, the questions are usually to clarify procedures and are rarely directed to other students. This situation changes rather dramatically under the three-second regimen.

5. Student-student exchanges increase; teacher-centered "show-and-tell" behavior decreases.

Under very short wait times, students compete for turns to perform for the teacher. There is little indication that they listen to each other. Under the three-second regimen, however, they show more evidence of attending to each other as well as to the teacher, and as a result, the discourse begins to show more coherence. This outcome is particularly influenced by wait time two.

6. Failures to respond decrease.

"I don't know" or no responses are often as high as 30 percent in classrooms with mean wait times one and two of one second, which is the most common pace. Increasing wait time one to three seconds is particularly important for this outcome. During training, teachers often ask, "What if the student just doesn't know? Wait time will just be an embarrassment." The practical answer to that is to provide an "I pass" option. A student who has that option and exercises it at the end of three seconds is 70 percent more likely to be back in the discussion spontaneously before the period is over than is the case under the normal one-second regimen.

7. Disciplinary moves decrease.

Students maintained on a rapid recitation pattern show signs of restlessness and inattentiveness sooner than do students on the longer wait time treatment plan. At first this seems counter-intuitive to teachers. It appears that fast-paced teacher questioning is a device for maintaining control of behavior. In fact, it not only inhibits the kind of thinking teachers seek to encourage but it can also increase the need to discipline. At this point, it may not be apparent why increased wait time should be a factor for improved classroom discipline. The explanation may lie in a remark by a fifth grader to his mother about his teacher who was experimenting with three-second wait times. "It's the first time in all my years in school that anybody cared what I really thought — not just what I am supposed to say." Protracted wait time appears to influence motivation, and that in turn may be a factor in attention and cooperation.

8. The variety of students participating voluntarily in discussions increases. Also, the number of unsolicited, but appropriate, contributions by students increases.

Under the short wait time pattern, a major portion of responses comes from a small number of students: Typically six or seven students capture more than half of the recitation time. Under the three-second regimen, the number of students usually rated as poor performers who become active participants increases. Interestingly, this change in verbal activity gradually influences teacher expectations for students because more students do more task-related talking. (Verbal competence appears to be a salient factor in teacher judgments concerning a student's capabilities.)

9. Student confidence, as reflected in fewer inflected responses, increases.

Under a short wait time schedule, student responses are often inflected as though a tacit question such as "Is that what you want?" were attached to their statements. In a series of investigations to assess growth of confidence and a shift of reliance away from unsupported declarations by a powerful source, I presented a laboratory apparatus and a controlling variables problem to individual students chosen from different science settings (Row, 1968, 1969b, 1971). To assess the strength of an evidence-inference linkage, when subjects discovered and stated a relationship as a result of working with the apparatus, I would say, "I disagree." I wanted to observe what they did as a consequence. Could they persist through three disagreements? Some students came from the experimental science program classes with the usual short wait time pattern; others came from classes that in addition to the experimental science program also had three-second wait time regimens. A third group of students came from classes still engaging in the city's standard science program. I found that three-fourths of the new science and long-wait-time-group persisted through three disagreements by returning to the system, demonstrating their findings, and arguing the logic of their explanations. The other groups did much less well. For those in the experimental program under a short-pause procedure, less than half lasted through three disagreements. For the standard program (largely from a book), only 2 percent met the criterion — most could not even make a start on the problem presented to them (see Honea, 1981, for consonant results in an attitude/wait time study using social studies content).

In a wait time investigation conducted with Pueblo Indian students, Winterton (1977) found that students who were previously described by teachers as nonverbal contributed spontaneously twice as often in the long wait time classes as did their counterparts in science classes operating on the short wait time regimen. Win-

terton also reported increased values on other verbal indicators identified by Rowe (see Rowe, 1973, 1978 for summary and training techniques).

10. Achievement improves on written measures where the items are cognitively complex.

Tobin concluded that the wait time variable makes a significant contribution to performance on cognitively more complex test items at all three levels: elementary, high school, and college (Tobin, 1984; Tobin and Capie, 1982; Tobin, 1980). In his more recent work done in Australia, Tobin (1983, 1985) reports that average wait times there are even shorter than they are in the United States. Samples from two South American sources also show a shorter baseline wait time. In both situations as well as in Thailand (Chewprecha, et al., 1980), increasing wait time to three seconds, particularly wait time two in science, improves language and logic variables and in some studies written test performance as well (see also Yeany and Porter, 1982).

Almost as soon as teachers begin the wait time procedure, there are noticeable changes in speech and attitude outcomes. In fact, the promptness of changes, often detectable in the first hour, suggests that the wait time variable must have pervasive connections to both cognitive and affective factors. In a carefully designed and controlled study at the National Gallery of Art in Washington, Marsh (1978) found that even in groups of strangers, docents who used longer wait times could increase visitor engagements with ideas. Thus, it is a variable that does not rely on longstanding prior acquaintance of students with each other to produce results.

Effects on Teachers

Once teachers stabilize longer wait time patterns, certain characteristics of their discourse change. These changes are treated as outcome variables because they are influenced by the wait time factor.

1. Teachers' responses exhibit greater flexibility. This is indicated by the occurrence of fewer discourse errors and greater continuity in the development of ideas.

Under the short wait time schedule, the discourse does not build into structural propositions. To put it another way, there are more discontinuities in the discourse between students and teachers. Instead of a well-prepared banquet of ideas, the sequence of discourse resembles a smorgasbord at which everyone goes along, commenting on what she or he picks up, but paying no attention to the doings of others. One can calculate a discontinuity index for classroom discourse in much the same way one does when evaluating a computer-assisted-instruction program (Rowe, 1978). The index is higher for short wait time regimens.

2. The number and kind of questions asked by teachers changes.

There are fewer questions, but more of them entail asking for clarification or inviting elaboration or contrary positions.

As teachers succeed in increasing their average wait times to three seconds or more, they become more adept at using student responses — possibly because they, too, are benefiting from the opportunity afforded by the increased time to listen to what students say. Boeck and Hillenmeyer (1973) reported that wait time one following a complex question tended to be longer than after a low-level question. Rice (1977), Doerr (1984), and Hassler, Fagan, and Szabo (1980) confirm the original finding that increased wait times result in a cognitively more advanced pattern of teacher questions and reactions.

3. Expectations for the performance of certain students seem to improve.

Under the longer wait time schedule, some previously "invisible" people become visible. Expectations change gradually, often signaled by remarks such as "He never contributed like that before. Maybe he has a special 'thing' for this topic." This effect was particularly pronounced where minority students were concerned. They did more task-relevant talking and took a more active part in discussions (Rowe, 1969b, 1974e, 1975) than they had before.

While protracted wait times were never intended for use in drill and practice, neither I nor other researchers (e.g., Jones, 1980, Arnold, Atwood, and Rogers, 1974) have found markedly different wait time one values to be related to the level of question. I reported rather that this value was more influenced by teacher expectations. I asked teachers, prior to wait time training, to list the top five and bottom five students in their classes. Teachers gave the top five an average of 1.2 seconds of wait time one and the bottom five slightly less than one second (Rowe, 1974a, b, c, d, e; 1978). Gore (1981) suggested that teachers gave more wait time to one sex than the other. However, his measurement of wait time did not conform to the definitions.

Training for Wait Time

In their eagerness to elicit responses from students, teachers often develop verbal patterns that make the achievement of wait time two unnecessarily difficult. Chief among the inhibitors is the habit of mimicry, repeating part or all of what a student says. A high mimicry rate cuts off extended wait times and reduces the quantity and quality of student responses. An anecdote illustrates the unintended consequences of a mimicry pattern. In a classroom where the teacher was changing his pattern in order to increase wait time two, one of the students asked, "Mrs. B., how come you are not repeating things any more?" Before she could reply, another student answered the question. "I know. She knows that we can tell from the tone of her voice which answers she likes and which she doesn't, and we can stop thinking."

There are other verbal signals to consider avoiding or reducing in conjunction with wait time, e.g., "Yes . . . but . . ." and ". . . though" constructions because they signal the student that an idea is about to be rejected without the consideration due it.

Various procedures have been tried to help teachers learn to increase wait times (e.g., Anshutz, 1975; Atwood and Stevens, 1976). So far, the procedure that gets the most people to achieve relatively stable criterion three-second wait times in classroom settings takes longer that we would like, six to twelve hours. Moreover, it is a bit aversive because it involves transcribing

ten-minute segments of tape recordings from three teach-reteach cycles using groups of four students. (When teachers work with small groups, wait times are as short as when they work with a whole class, Rowe, 1973.) The procedure is further complicated by the fact that teachers have seen their servo-chart plots for each teach-reteach cycle.

With the teach-transcribe-reteach procedure, 70 to 80 percent of people achieve three-second criterion wait times (Rowe, 1973, 1974a, b, 1978; McGlathery, 1978). One must be aware, however, that in the third or fourth week after teachers start using longer wait times in their classes, they revert to the original fast pace unless they have a chance to talk about what they are experiencing. What appears to happen in this transition interval is that grounds for decision making are less clear cut than was the case under the fast schedule. For example, teachers cannot decide how long to let student-student interaction go or how they feel when the nature of student-teacher interaction changes. In short, there are role and norm transformations taking place, and until these get settled, some teachers feel uncomfortable. A little support during this transition, even some advance warning that it will happen, appears to be sufficient to reinstate the three-second wait time average and to get teachers through the transition period.

Garigliano (1973) followed a teach-reteach regimen in a wait time training experiment but dropped the transcribing procedure out of one group in favor of having teachers listen to their tapes and identify and measure both species of wait time. His best performing treatment group (transcribed) attained 2.8-second averages. He confirmed the student effects described by Rowe, provided that average wait times did not drop much below this value.

Swift and Gooding (1983) and DeTure (1984) found that written training protocols are virtually useless in helping teachers achieve three-second wait times. In Swift's study, teachers averaged 1.35 seconds for wait time one and 0.68 seconds for wait time two, values that differed little from the means of his untrained group. Similarly, DeTure reported averages of 1.47 and 0.87 seconds for wait time one and two respectively for people trained with written or oral protocols.

Swift and Hawkins (1979) and Gooding, et al. (1982) introduced an electronic monitoring device, the basic concept for which was initially developed jointly with Rowe, as a substitute for the feedback function supplied by the servo-chart plotter. Their voice-actuated relay system flashed a green light when wait times were satisfactorily long and a red light when wait times were too short. Teachers could have immediate wait time feedback while they were interacting with students. This method did result in some improvements but did not help the group attain criterion wait times until the procedure was accompanied by supportive intervention. Swift, Swift, and Gooding (1983, 1984) report that when the wait time devices were removed, despite supportive intervention, teachers reverted to short wait times. It may be that the presence of the mechanical device, while somewhat helpful, prevented teachers from attending to the fundamental changes in student-teacher interaction that take place with longer wait times, namely, the decisions occasioned by subsequent shifts in roles and norms.

DeTure (1985) remarks at the conclusion of a review of training procedures that the quck fix for this variable may not be feasible. Transcribing tapes as part of the training procedure in teach-transcribe-reteach cycles is time consuming but remains the procedure that enables more people to achieve a three-second average wait time and successfully transfer it to the classroom.

Based on research, it is clear that wait time two is more important than wait time one in many of its effects. Ironically, some training programs and teacher competency rating schemes mistakenly focus only on wait time one (DeTure, 1985).

All the training techniques may be useless if teachers believe they will lose control of the class under the longer wait time schedule. As the Soars so aptly observed (1983), teachers confuse management of ideas with management of discipline. They need to know that behavior management is actually easier with protracted wait times (Rowe, 1974a).

Adaptation of Wait Time for Lecture Formats

Often in high school, and particularly in college, there is a need to convey complex content, and the lecture appears to be the most commonly chosen format. For the lecture situation, I developed a ten-two procedure for college and the eight-two for high school. Based on a theory about how short-term and long-term memory interact, I identified four types of mental lapses that take place on the part of listeners in science classes (Rowe, 1967a, 1980, 1983).

Using the ten-two and eight-two formats, participating science faculty would lecture for eight to ten minutes then stop for two. In the strictly regulated two-minute intervals, students in sets of three shared their notes and helped each other clarify concepts. All unresolved questions were to be reserved for the last five minutes of the period. Experimental groups following this regimen generally show improved performance over control groups on the more complex test items, more delayed retention, and more positive attitudes toward the subject and method. The quality of student questions also improves as does the usefulness of their notes.

Rewards

Another line of research that impacts on the wait time situation deals with teacher sanctioning. The effects of protracted wait times are enhanced if the teacher sanctioning pattern (either positive or negative statements by the teacher) is reduced. That is, a high positive or negative sanctioning pattern reduces some of the effects of protracted wait times, particularly the following: student confidence, speculation, and elaboration (Rowe, 1974b,d; also see McGraw, 1978; Soar and Soar, 1983).

Special Education

Exposure to longer wait times is as useful to talented

students as it is to lesser-ability youngsters. Gifted and talented high school students participating in a summer science program found the extended wait times particularly motivating, for the same reason as did the fifth grader mentioned earlier. Bright students see many connections between ideas but they never get to talk about them. With increased wait times, the changes in their production of ideas, in the variety of moves under the game model of the classroom, and in their expressions of relief at being able to go beneath the surface ideas are evident. Servo-chart plots of their explanations show that explanations come in bursts separated by substantial pauses (often in excess of five seconds), as does the speech of most students if they are not interrupted during the process by short wait time two intrusions. Thus the protracted wait times help both fast and slow learners, but for different reasons.

Two recent studies, one with mildly handicapped subjects and one with severely handicapped, showed some desirable outcomes for a five-second interval as opposed to the usual one-second pace (Korinek, 1985; Lee, 1985). In these cases, fundamental processing just takes more time. Extended wait time one was particularly important in the study by Lee.

Shrum (1985) found that wait time two (post-response wait time) in second language classes is even shorter (.73 seconds) than the .90 seconds reported by Rowe, much too short for thoughtful cognitive processing. She reports that average wait times are longer following questions in the native language than they are in the second language (see also Rochester, 1973).

Conclusion

Under a wide variety of instructional situations and levels ranging from first grade through university level, from classrooms to museum and business settings, the quality of discourse can be markedly improved by increasing to three seconds or longer the average wait times used by teachers after a question and after a response. These pauses are ordinarily so brief, one second or less on the average, that an adequate exchange of ideas and the nurturing of new ideas cannot take place. Wait time, however, is just another technique if one does not understand why fostering more productive exchanges among us all is so important. Gwen Frostic, a poet and artist, tells us in her book *Beyond Time:*

> We must create a great change
> in human direction —
> an understanding
> of the interdependency
> by which the universe evolves
> Know
> — that knowing —
> is the underlying foundation
> for the life we must develop. . . .
> We cannot leave it to the scientists —
> nor any form of government —
> each individual
> must fuse a philosophy
> with a plan of action.

Wait time provides a context in which teachers and students may dialogue together in the service of that purpose. □

References

Anderson, B.O. (1978). Effects of long wait-time on h.s. physics pupils' response length, classroom attitudes and achievement. *Dissertation Abstracts International,* 39, 349A. (Univ. Microfilms 78-23, 871.)

Anshutz, R.J. (1975). An investigation of wait-time and questioning techniques as an instructional variable for science methods students microteaching elementary school. *Dissertation Abstracts International,* 35, 5978A. (Universaity Microfilms No. 75-06, 131).

Arnold, D.S., Atwood, R.K. & Rogers, V.M. (1973). An investigation of relationships among question level, response level and lapse time. *School Science and Mathematics,* 73, 591-594.

Arnold, D.S., Atwood, R.K., & Rogers, V.M. (1974). Questions and response levels and lapse time intervals. *The Journal of Experimental Education,* 43, 11-15.

Atwood, R.K., & Stevens, J.T. (1976). Relationships among question level, response level and lapse time: Secondary science, *School Science and Mathematics,* 76, 249-254.

Boeck, M.A., & Hillenmeyer, G.P. (1973, March). *Classroom interaction patterns during microteaching: Wait-time as an instructional variable.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA. (ERIC Document Reproduction Service No. ED076574).

Chewprecha, T., Gardner, M., & Sapianchai, X. (1980). Comparison of training methods in modifying questioning and wait-time behaviors of Thai high school chemistry teachers. *Journal of Research in Science Teaching,* 17, 191-200.

DeTure, L.R. (1984, April). *The effects of a written protocol model on teacher acquisitions of extended wait time.* Presented to the National Association for Research in Science Teaching, New Orleans.

DeTure, L.R. (1985, April). *Acquisition of wait time; Training techniques and related teaching behaviors: Modeling protocols.* Paper presented at the annual meeting of the National Science Teachers Association, Cincinnati, Ohio.

Doerr, S.T., (1984). *The effect of wait time and Piagetian levels of teacher questions in middle school science classrooms.* Unpublished master's thesis, State University of New York, Oswego.

Frostic, G. (1971). *Beyond Time.* Michigan: Benzonia Press.

Garigliano, L.T. (1973). The relation of wait-time to student behaviors in Science Curriculum Improvements Study lessons. *Dissertation Abstracts International,* 33, 4199-A. (Univ. Microfilm 73-02595.)

Gooding, C.T., Swift, J.N., & Swift, P.R. (1984, April). *The identification, definition, and measurement of key variables in wait time research.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, Frenck Lick, IN.

Gooding, S.T., Gooding, C.T., & Swift, J.N. (1982). A microcomputer-based pause analysis apparatus. *Behavior Research Methods and Instruction.*

Gore, D.A. (1981). Sex-related differences in relation to teacher behavior known as wait time during fourth-grade mathematics instruction. Dissertation Abstracts International, 42 (6), 2546-A.

Hanna, G.P. (1977, July). *The effect of wait time on the quality of response of first-grade children.* Thesis submitted for the master's degree, University of Kansas, Lawrence.

Hassler, D.M., Fagan, R.R., & Szabo, M. (1980, April). *A successful transplant of wait time and questioning strategies to children's oral language behaviors.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, MA.

Honea, J.M. (1981). An investigation of the influence of wait time on student attitudes toward selected social studies topics. *Dissertation Abstracts International,* 41 (9), 3858-A.

Jones, N.A. (1980). The effect of type and complexity of teacher questions on student response wait time. *Dissertation Abstracts International,* 41 (2), 549-A.

Korinek, L. (1985). *Teacher questioning strategies used with elementary level mildly handicapped students.* Unpublished doctoral dissertation, University of Florida, Gainesville.

Lee, J.M. (1985). *Teacher wait-time: Task performance of developmentally delayed and non-delayed young children.* Unpublished doctoral dissertation, University of Florida, Gainesville.

Marsh. C.A. (1978). Socio-psychological influences upon the expression and inhibition of curiosity. *Dissertation Abstracts International,* 39, 445-B.

McGlathery, G. (1978). Analyzing the questioning behaviors of science teachers. In M.B. Rowe (Ed.), *What Research Says to the Science Teacher, Volume I.* Washington, DC: Natl. Science Tchs. Assoc.

McGraw, K.O. (1978). The detrimental effects of reward on peformance: A literature review and a prediction model. In M.A. Pepper and D. Green (Eds.), *The hidden costs of reward, new perspectives on the psychology of human motvation.* Hillsdale, NJ. Erlbaum.

Rice, D.R. (1977). The effect of question-asking instruction on preservice elementary science teachers, *Journal of Research in Science Teaching.*

Rochester, S.R. (1973). The significance of pauses in spontaneous speech. Journal of Psycholinguistic Research, 1, 51-81.

Rowe, M.B. (1968). *Curriculum Evaluation? Six Answers,* Berkeley, CA: University of California Press.

Rowe, M.B. (1968, Winter). SCIS in the Inner City, *Science Curriculum Improvement Study Newsletter,* 11.

(Continued on page 47)

LETTERS

Peer Observation: Teachers

The article "Relearning To Teach: Peer Observation as a Means of Professional Development," by Elizabeth Rorschach and Robert Whitney, in the Winter 1986 issue of the *American Educator* was refreshing to read. I had the pleasure of meeting Elizabeth in a writing seminar held at Lehman College in the Bronx, New York, in July 1983.

A mathematics teacher at the Bronx High School of Science for thirty-one years, I am greatly in favor of peer observation. Even when I was a beginning teacher, I observed other mathematics teachers on my own initiative. Some years ago, I observed a history teacher who provided me with a lasting model. Even now I can "hear" him saying to his students, "You are the leaders of tomorrow." How true! Since then I have been capitalizing on the leadership potential of my students, and even if I say so myself, I have been succeeding with my efforts. Over the years, I have continued to take the opportunity to observe and learn from colleagues in my own department and in other fields. During each visit, I have gleaned new insights. I also love to have other teachers observe my class.

The question is: "How can teachers be encouraged to visit their colleagues' classrooms to compare notes on teaching techniques and learn new approaches to teaching various aspects of the curriculum?" I think critical to this question is the development in the teacher of a high feeling of self-esteem personally and professionally, combined with the belief that one *can* become a better classroom teacher and learn from colleagues, both younger and older. I believe every teacher needs to be imbued with the idea that he or she has something to offer a colleague in a class visit. There is indeed much that we can learn from each other during such professional encounters.

—Judith S. Engel
The Bronx High School of Science
Bronx, N.Y.

I have just finished reading the article "Relearning To Teach: Peer Observation as a Means of Professional Development" in the Winter 1986 issue of *American Educator*. The article provided support and reinforcement for a major staff development effort that my staff and I are involved in.

Our school system is the largest in the state of New Jersey. One of the state department of education's requirements for students to receive a high school diploma is passing the New Jersey High School Proficiency Test. This test, commonly called the HSPT, requires students to use higher order thinking skills and multi-step problem solving in reading, writing, and mathematics. This poses a major challenge to our teachers and our students.

Although there are numerous variables and situations, we know we must prepare our children to meet this challenge. Key to this effort is instructional content and instructional delivery. As we are working to upgrade and align the curricula, we are also working on staff development. Our goal is to reteach teachers to teach using Madeline Hunter's Instructional Theory into Practice strategies. After the initial training period, peer teachers become coaches for the trained teachers to provide ongoing support and assistance for effective implementation of the strategies learned or "relearned" in the ITIP training.

To date, my training staff has trained 110 grade eight/nine English and mathematics teachers. The teachers have been very enthusiastic during the training; and they are adjusting to and becoming comfortable with the peer coaching. For the first time in many, many years, educators are working with educators in a collegial undertaking to improve the quality of education in our school district. It was encouraging to read and interpret the Rorschach/Whitney article as one that validates and supports our project.

—Mary G. Bennett
Director
Division of HSPT Development
Newark, New Jersey

Peer Tutoring: Students

I am writing in response to your invitation to send information on successful peer tutoring programs in the informative article "Docemur Docendo" by Marsha Levine (Fall 1986). Brooklyn College is now in its third year of a major peer tutoring project. This work began as a small, controlled experiment funded by SEEK (a New York state program) for underprepared students. Students in the tutored courses got slightly better grades in the course, had better attitudes toward the college, and went on to receive better grades in the subsequent semester. As a result, the peer tutoring project was expanded and is now funded by the City University of New York's Office of Academic Affairs.

The project is directed to some three thousand students enrolled in four of the initial courses of our nationally acclaimed Core Curriculum. Each course section is assigned to a paid undergraduate tutor who has previously completed the course with a grade of A. The tutor attends the course regularly, meets individually with students, and confers with the professor every two weeks about student progress. Tutors also participate in weekly training sessions. Currently thirty-two peer tutors are working in conjunction with the faculty members who recommended them. The model is proving to be highly successful. At least four hundred individual tutoring sessions were held in each month of this academic year. Hundreds of additional students come to the group review sessions for particular courses; these are typically conducted by pairs of especially capable peer tutors. More than one hundred faculty members have participated in the project and are enthusiastic about the process and the results. The project benefits not only the students but also the peer tutors, the faculty members, and even the curriculum itself.

—Mary Oestereicher
Associate Dean
Brooklyn College

Why Over 25,000 Teachers Will Spend A Lot Less Time Grading This School Year—*and How You Can, Too!*

This year more than 25,000 teachers across the country are going to have a lot more time on their hands.

Time they'll spend working with students, preparing classes, and doing the things they like to do outside the classroom.

Why? Because instead of spending countless hours each marking period adding, converting, averaging, and verifying dozens of grades for each of their many students, they're going to let a hand-held calculator do it for them—*all with the touch of few buttons!*

That calculator, invented by Michigan educator John Brittan, is the amazing GradeMatic 100™. And it is quite simply, the ideal tool for tedious and tiresome grading computations.

Could *YOU* Use More Time?

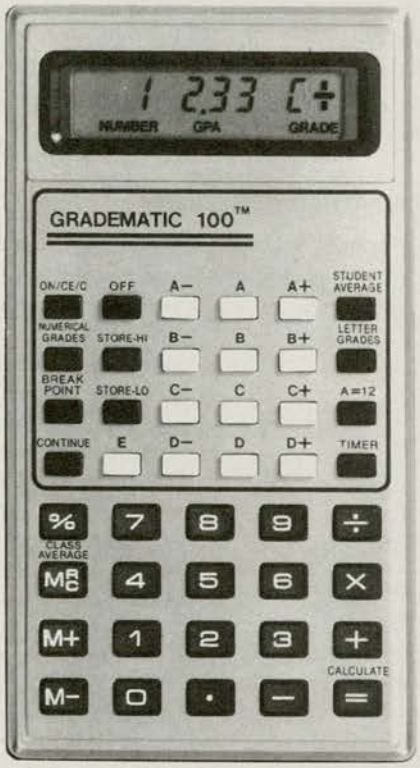
Whether you use letter grades, numerical scores, or a combination of both, you, too, will save hours upon hours of time each marking period with the GradeMatic 100™.

And it's so simple to use.

• **For letter grades** you enter directly on the patented letter-grade keyboard—*just as you read them off a gradebook.* Then simply press the *Student Average* key and instantly the GradeMatic gives you the final grade.

• **For numerical grades** you set the high and low passing point totals—*for a single assignment or for a whole semester's work*—then enter the students' scores and again press the *Student Average* key to find the grade.

With either kind of grading, you can enter up to 99 grades per student and up to 99 students per class for the automatic *Class Average* program.



GRADING GENIUS — The new GradeMatic 100™ grading calculator puts an end to the drudgery of grading.

• **You can even time tests** or activities with the GradeMatic's built-in Timer Alarm which counts up or down (and has a 3-second alarm).

Compact and Complete

What's more, the GradeMatic lets you grade where and when you want.

It measures a mere 2-3/4 x 5-1/4 x 1/4", so it fits easily in your purse or pocket. And it also works as a regular math calculator with percent, memory and battery-saving auto shut-off.

Best of all, the GradeMatic comes complete with *easy-to-follow instructions, full 1-Year Warranty, replaceable batteries (avg. life over 2 years!), and sturdy vinyl carrying case.*

Educators Agree:

"I can't believe the time I save with this wonderful invention! It's so easy even my students can use it," **Gary Geivet, Santiago Elem., Santa Ana, Calif.**

"I moved from 30 hours per grading period (to average grades) to less than 10 using the GradeMatic 100," **Sherrie D. Morritz, Grandview Jr. High, Phoenix, Arizona**

"Best teachers aid yet! Makes grade averaging fun!" **Virginia Mattingly, South Spencer High School, Rockport, Indiana**

Order *Risk-Free* TODAY And Receive a Free Gift*

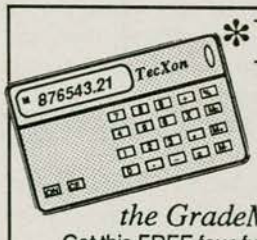
With all the time you save on your first marking period alone, the (tax deductible) $39.95 GradeMatic 100™ will pay for itself many times over.

What's more, you risk nothing by ordering the GradeMatic 100. Because if for any reason you're not totally delighted, simply return it within 2 weeks for a full, prompt refund.

To order *and receive your free gift,* simply fill out and return the coupon below to: **Calculated Industries,** 2010-B N. Tustin, Orange, CA 92665.

Or call Toll Free 24 hours everyday (including Sunday), **1-800-854-8075** *(in Calif., 1-800-231-0546).*

Order your GradeMatic 100™ risk-free today, and you too, can spend a lot less time grading this school year!



*Yours Free!

just for trying the GradeMatic 100™

Get this FREE four-function credit-card calculator just for trying the GradeMatic. That's right — you get a second calculator absolutely free. And you can keep this one even if you decide to return the GradeMatic. So don't delay. This is a limited time offer. **Order yours today!**

☐ **YES!** Please rush me the following order *and be sure to include my FREE credit card calculator.*

Qty.	Product	Price	Shpg.	Total
	GradeMatic 100™	$39.95	$3.50	
	New! Acrylic Stand	$12.95	$2.50	
	Burgdy. Leather Case	$10.00	—	
	Brown Leather Case	$10.00	—	
	Gold Initials | | |	$1 ea. initial		

SAVE15%— 5 or more just $37 ea. with FREE shipping to 1 place with 1 check or charge.

Calif. 6% tax ——

TOTAL ——

Call Toll Free 24 Hrs. Everyday
1-800-854-8075
(In Calif., 1-800-231-0546)
(714) 921-1800

Name _____

Address _____

City _____ State _____

Zip Code _____

☐ Check encl. for entire amt. of order including 6% tax in Calif.

☐ VISA ☐ MasterCard ☐ Am/Exp

Acct.# _____

Expiration Date _____

Sign Here _____ AE-3/87

Mail to:
Calculated Industries, Inc. • 2010 N. Tustin, Suite B • Orange • CA 92665

(Continued from page 17)

reluctantly accepted this new process only because it's been made clear to them that this is the way it's going to be. Others have embraced it totally and willingly and with enthusiasm. To a large degree, it depends on the personality and the history and the tradition of the particular building and person. We've also seen some administrators whose initial reaction was very negative but who have now done a complete turnaround. I can think of individuals whom I would call the worst, the most autocratic, who have gradually bought into this process over a period of two years or so and who are now very comfortable with it.

When people really believe that what they think, what they say, what they do will make a difference, they take hold, they make things happen.

What has been indispensable in all of this is that SIP has had the full commitment of the top administration of the school district. This is especially essential in the beginning when there are plenty of doubts floating around as to whether the administration is serious about sharing authority or whether this is some new gimmick. Dave Dickson, the superintendent here, brought with him to Hammond a very open style of management and a belief in the principle that those affected by a decision ought to have some input into making that decision. He is by personality and style a person who governs through consensus. In addition, we have a school board composed of five very secure individuals who are willing to listen to a superintendent who says to them that we can enhance education in Hammond, Indiana, by involving professionals in decision making. That is very important. If there is a lesson here for other school boards and other superintendents, it is that they have nothing to fear from sharing decision making. The school system is not going to fall apart; it's going to get better.

McPike: *What about teachers? What effect has SIP had on them and what kinds of changes have they had to make?*

O'Rourke: There has been a tremendous release of energy and creativity. It's true what they say about this sense of ownership, it's very powerful. When people really believe that what they think, what they say, what they do will make a difference, they take hold, they make things happen, they look for what needs changing and they change it, be it in the system or in themselves. The result here has been a very noticeable feeling of professional pride and investment in "this school as my school."

This doesn't happen automatically, though. There's a considerable amount of cynicism that has grown up over the years, which must be overcome first. There are a lot of teachers who have served on textbook adoption committees but not had the textbook they recommended selected; many who have put time and research into developing better curriculum only to be told in the end there had to be one uniform curriculum; many who were assured that their ideas were good ones or that their "input was valued," but when it came around to budget time, there always were "higher priorities" than the programs the teachers said were needed. These teachers' enthusiasm and their willingness to be involved has been drained over the years. It has to be restored, and that will take time.

Second is the fact that many teachers have accepted a limited definition of their role. This is a result of years of lack of empowerment. Teachers were never given the time or the authority to develop a master schedule; they were just told to show up for their classes at a certain hour. They were never asked to develop a discipline policy for their school; they were just told to keep order in their classroom.

One often hears about the "autonomy" teachers have in their classroom, but most teachers realize that it is a limited autonomy, that all the decisions and policies outside of their control eventually find their way into the classroom, impinge upon that autonomy, and profoundly limit or expand a teacher's ability to do a good job. The boundaries of professional authority have been drawn quite narrowly. As a result, in my opinion, not only have teachers been robbed of a full expression of their professional abilities, but the schools and our students have been denied the full benefits of their expertise. I really do believe that if education reform is going to mean anything at all in this country, and we're not just paying lip service to it, we must redefine what it means to be a classroom teacher. If we are really going to emerge as a profession, we need more control over all the conditions that affect teaching and learning. A lot of teachers are ready for that; they need no prompting, they just need to know that they're not wasting their time. Others need to really begin to see themselves in a new way. And this will happen, I'm convinced of that. As new models emerge, as people begin to see what is possible, as they build their confidence, as they restore their trust, as events prove to them that they will be taken seriously, things will change.

McPike: *As I heard you say once, in response to a question about how hard it would be to bring real change to a system that has stayed the same for so long: "Look, we're just one local union in Hammond, Indiana, we didn't know everything, we took some risks, and we are making it happen."*

O'Rourke: That's true, we are. And so can others. □

Initial and ongoing support — in the form of ideas, training, and funding — for the School Improvement Process has come from the Institute for the Development of Educational Activities (IDEA), an arm of the Charles Kettering Foundation, and from the Eli Lilly Endowment, with additional funding from the Indiana Criminal Justice Institute and the Indiana State Department of Education.

Wait Time

(Continued from page 43)

Rowe, M.B. (1969a). Science, silence and sanctions. *Science and children,* 6(6), 11-13.

Rowe, M.B. (1969b). Science and soul. *The Urban Review,* 4 (2), 31-33.

Rowe, M.B. (1971). Wait-time and rewards as instructional variables: Influence on inquiry and sense of fate control. *Proceedings of the Institute fur die Pedagogic der Naturwissenshaften and der Christian-Albrechts Universitat,* Kiel, Germany.

Rowe, M.B. (1972). *Wait-time and rewards as instructional variables: Their influence on language, logic and fate control.* Presented to the National Association for Research on Science Teaching, Chicago.

Rowe, M.B. (1973). *Teaching Science as Continuous Inquiry.* New York: McGraw-Hill, Chapters 7-12.

Rowe, M.B. (1974a). Relation of wait-time and rewards to the development of language, logic, and fate control: Part One — wait time. *Journal of Research in Science Teaching,* 11 (2), 81-94.

Rowe, M.B. (1974b). Pausing phenomena: Influence on the quality of instruction. *Journal of Psycholinguistic Research,* 3 (3), 203-223.

Rowe, M.B. (1974c). Reflections of wait-time: Some methodoligical questions. *Journal of Research in Science Teaching,* 11 (3), 263-279.

Rowe, M.B. (1974d). Wait time and rewards as instructional variables, their influence on language, logic, and fate control: Part II, rewards. *Journal of Research in Science Teaching,* 11 (4), 291-308.

Rowe, M.B. (1974e). Science that kids can live by. *Learning,* 2 (9), 16-20.

Rowe, M.B. (1975). Help Denied to Those in Need. *Science and Children,* 12 (6), 23-25.

Rowe, M.B. (1976a). The pausing principle — Two invitations to inquiry. *Journal of College Science Teaching,* 5 (4), 258-259.

Rowe, M.B. (1976b). Is anybody listening: In M.L. Hanes, I.J. Cordon & W.B. Breivogel (Eds.). *Update: The first ten years of life.* Gainesville: Division of Continuing Education, University of Florida.

Rowe, M.B. (1978). *Teaching science as continuous inquiry: A basic,* (2nd ed.). New York: McGraw-Hill.

Rowe, M.B. (1980). Pausing principles and their effects on reasoning in science. *New Directions for Community Colleges,* 31, 27-34.

Rowe, M.B. (1983). Getting chemistry off the killer course list. *Journal of Chemical Education,* 60, 954-956.

Rowe, M.B., & Hurd, P. (1966). A study of small-group dynamics in the BSCS lab program. *Journal of Research in Science Teaching.*

Shrum, J.L. (1985). Wait time and the use of target or native languages. Foreign Language Annals, 18 (4), 305-313.

Soar, R.S., & Soar, R.M. (1983). Context effects in the teaching-learning process. In D.C. Smith (Ed.), *Essential Knowledge for Beginning Educators* (pp. 65-75). Washington, DC: Amer. Asso. for Colleges for Teacher Ed.

Swift, J.N., & Gooding, C.T. (1982, April). *The effects of wait time feedback on teacher-student interaction in classroom discussion.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, Chicago.

Swift, J.N., & Gooding, C.T. (1985, April). *The identifying, defining, and measurement of key variables in wait time research.* Paper presented at the annual meeting of the National Association for Research in Science Teaching 58th National Meeting, French Lick Springs, IN.

Swift, J.N., & Gooding, C.T. (1983). Interaction of wait time feedback and questioning instruction in middle school science teaching. *Journal of Research in Science Teaching,* 20, 721-730.

Swift, J.N., & Hawkins, H.F. (1979). *A wait time conditioning device.* Unpublished paper, State University of New York, Oswego.

Swift, J.N., Swift, P.R., & Gooding, C.T. (1984, April). *Observed changes in classroom behavior utilizing supportive intervention.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Swift, J.N., Swift, P.R., & Gooding, C.T. (1983, April). *Observed changes in classroom behavior utilizing workshop, wait time feedback and immediate supportive intevention.* Presented to New England Educational Research Organization, Rockport, ME.

Tobin, K.G. (1980). The effect of an extended wait time on science achievement. *Journal of Research in Science Teaching,* 17, 469-475.

Tobin, K.G. (1983). Management of time in classroom. In B.J. Fraser (Ed.), *Classroom Management* (22-35). Perth, WALT Press.

Tobin, K.G. (1984, April). *Improving the quality of teacher and student discourse in middle school grades.* Presented to the American Education Research Association, New Orleans, LA.

Tobin, K.G. (1985, April). *Wait time in science: Necessary but not sufficient.* Paper presented at the annual meeting of the National Association for Research in Science Teaching, French Lick, IN.

Tobin, K.G., & Capie, W. (1982). Relationships between classroom process variables and middle school science achievement. *Journal of Educational Psychology,* 14, 441-454.

Winterton, W.W. (1977). Effect of extended wait-time on selected verbal response characteristics on some Pueblo children. *Dissertation Abstracts International, 38,* 620-A. (Univ. Microfilms, 77-16, 130.)

Yeany, R.H., & Porter, C.F. (1982, April). *The effects of strategy analysis on science teacher behaviors: A meta-analysis.* Presented to the Natl. Assoc. for Research in Science Teaching, Chicago.

Are Administrators Ready To Share Decision Making with Teachers?

(Continued from page 25)

For more than a year, a SIP committee had been studying the role of department heads. They had interviewed present department heads, administrators, and teachers; they had read all the literature and had studied models in other schools. Their first suggestion was a simple one: give all department heads the same planning period so that they could meet once a week with the principal to form a council for instruction. Of greater significance was SIP's plan to create dual department heads—one to take care of management and clerical duties; the other to act as an instructional resource person. Teachers would have a say in who would get these positions. (One of the major problems with the present system is that department heads have been allowed to continue in positions long after it is clear that they are doing horrible jobs and have lost the faith of their teachers. It often seems to teachers that being an obedient servant of the administration, rather than providing leadership, is a main requisite for being a department head). SIP members felt that their proposal could begin to generate some much-needed instructional leadership within the school.

When the SIP members discovered that the central office, without any consultation, had implemented its own plan for department heads, they were outraged. "The administrators encouraged us to do months and months of work; they said they were 100 percent behind us, and then they go and do whatever they want. It's obvious that they were just giving lip service to our project; they never intended to abandon their old 'bosses know best' way of doing things," said one SIP member, echoing the thoughts of most. "We work for a year and a half on this project and then are treated like our opinions are irrelevant; it's humiliating to be working for people like that," said another. One livid SIP member blamed the way the decision was made on sexism: "The problem with our committee is that it's made up mostly of women. The men that made the decision wouldn't dare treat other men that way."

SIP member Mike DiSalvo shares some of the anger of his colleagues, but he also feels that the present crisis with the central office is just a predictable part of the process of teachers' getting control over their profession. "I don't think the central office intentionally sold us out. I think they got caught in a budget crunch, had to act quickly, and acted forgetting we were there. I think they know they blew it. Now we'll just have to go toe to toe with them and make them realize that if there is something we are working on they can't act unilaterally," says DiSalvo. Even if it does lose this year's battle over department heads, DiSalvo thinks that SIP is here to stay and that it will eventually radically re-order the structure of our school and put teachers in charge of teaching.

DiSALVO MAY be right. The T.C. Williams School Improvement Project has laid its groundwork carefully and has too much support to be dismissed cavalierly by administrators. Schools considering sim-

ilar faculty-based improvement projects might do well to consider what has taken place so far at T.C. Williams. Most important to any such process is a solid core of teachers who are ready to work for change.

Such a core arose spontaneously in my school as soon as they were given an opportunity to make a difference. I think that most schools have such people ready to come forth to take responsibility. Granted, there are teachers who are too cynical or too burdened with present duties to play an active part in the process, but many of them can be won over once they see that the core group is working in the best interest of the entire school. Of course there will always be some teachers who prefer to stay in their classrooms and, for better or worse, "do their own thing." But that should not discourage those working for change or be taken by administrators as a sign that teachers in general aren't interested in taking on more responsibility. The support of parents also seems essential. Having parents on committees can give teachers an instant reading of the community's reactions to their work. Parent support has helped our SIP committee gain a credibility that has forced administrators to take it seriously.

But how seriously? Are administrators really ready to share power and decision making with teachers? In Alexandria, and across the country, that is a very big question. The Carnegie Report's lead teacher concept is being attacked by the National Association of Secondary School Principals and by many administrators. They prefer to see the school principal attempt to be all things to all people—manager, keeper of the peace, and, the latest cliché, "instructional leader." That is a difficult task for any individual; it is an impossible one for most principals who got their jobs not for their scholarship or exemplary teaching but for their ability to control students and keep the building running.

Principals in Rochester, New York, were so jealous of their "all things to all people" role that they recently went to court to block state funds for a program in which master teachers would assist and coach colleagues. [See sidebar, p. 24.] Administrators in Alexandria are not so turf conscious as those in Rochester. But their idea of shared decision making and teacher involvement may be quite different from that of teachers. Not only did the central office recently make a unilateral decision regarding department heads, but it also rejected a SIP proposal fully backed by our principal and PTA for a crisis center and crisis counselor for disruptive students. Two separate messages floated down from the central office to teachers. One was that there wasn't enough money in the budget; the other was that there wasn't enough need for a crisis center. Both answers demonstrate the heart of the problems teachers working for greater roles in their schools are going to have with their central offices.

The "no money" answer can be used as any easy way out for bureaucrats not willing to confront teachers on the merits of issues. The "no need" answer points to an even more serious problem: the refusal of our bosses to take seriously what not only teachers but administrators in the schools are saying. Though central office people with their obsession with public relations may not want to admit it, we do have dangerous, sociopathic kids in our school. Police estimate that over 250 of our students have criminal records.

Last year, one of our students was charged in connection with a classroom attack on a teacher. Doctors said that had the blow to her skull been one inch to the right, she would have been killed. To hear an administrator sitting in an office, far removed from the school, reject the pleas of the entire school community for special help in dealing with such kids makes one realize how far we have to go before we have a real share in decision making and real responsibility for our schools.

Teachers at T.C. Williams are now mustering their forces to fight the central office's decisions at a forthcoming school board meeting. They seem more "up" for this than they've been for any previous battle over salaries and benefits. Indeed, across the country, the biggest battles teachers may soon be waging will be not over money but over their right to control their own profession. □

What Interests You?

Do you enjoy music? Sports? Cooking? Current Events? Whatever your interests, AFT Subscription Services has a magazine for you. Look over this list, then order those magazines which intrigue you. *Remember—our prices are guaranteed lowest!*

MAGAZINE DISCOUNTS

AMERICAN FEDERATION OF TEACHERS SUBSCRIPTION SERVICES

9 Northern Blvd., Box 258 • Greenvale, N.Y. 11548 • (516) 671-7744

Publication	Usual Price	Your Price
American Artist 9 issues	14.00	11.97
American Film	20.00	12.97
American Health	14.95	11.95
American Heritage	24.00	18.00
Amer. Photog. 8 issues	13.30	5.98
Americana	11.95	9.95
Analog Computing	28.00	24.00
Analog Science Fiction/ Fact 10 issues	19.50	9.97
Antique Monthly	18.00	13.00
Art News	29.95	25.95
Artist's Mag. 9 issues	15.75	9.97
Arts & Activities	20.00	17.95
Arts & Antiques	36.00	27.95
Asimov's Sci-F 10 issues	19.50	9.97
Astronomy 9 issues	18.00	15.75
Atlantic City 13 issues	15.16	9.95
Atlantic Monthly	18.00	9.95
Attenzione (6 issues/yr.)		12.95
Audio	19.94	9.97
Audubon Magazine	16.00	15.00
Auto Racing Digest	7.95	5.97
Automobile	18.00	11.95
Autoweek 30 issues		13.20
Backpacker	18.00	9.00
Baseball Digest 10 issues	12.46	7.97
Basketball Digest	9.95	7.97
Bestways	11.97	7.95
Better Health & Living	15.00	11.97
Better Homes & Gardens		14.00
Bicycling	15.97	12.97
Black Enterprise	15.00	11.95
Boating	21.94	18.97
Bon Appetit		15.00
Bowling Digest	12.00	9.97
Boys Life		13.20
Business Week	39.95	27.95
Byte		21.00
Campus Life	14.95	9.95
Car & Driver	16.98	11.99
Car Craft	12.94	8.97
Cat Fancy	17.97	12.97
Cats	17.50	12.95
Changing Times	15.00	9.97
Chickadee: ages 3-8	15.00	12.95
Child (Fashion by Taxi)	12.00	10.00
Child Life: ages 6-10	11.95	9.97
Childrens Digest: (age 7-11)	11.95	9.97
Childrens Playmate: (age 4-8)	11.95	9.97
Classroom Computer Learning	22.50	15.95
Cobblestone: ages 8-13		18.95
Coinage	16.00	11.95
Columbia Journal Review	20.00	11.95
Commentary		36.00
Compute!	24.00	14.40
Computing Teacher		21.50
Consumers Digest	14.97	10.97
Consumers Reports		16.00
Consumers Research 9 issues	18.00	15.00
Cricket: ages 6-13	19.80	15.75
Cross Country Skier	11.97	8.97
Cruise Travel	12.00	9.97
Cruising World	18.00	14.00
Cycle Magazine	13.98	6.99
Cycle World	13.94	6.97
Dance		23.95
Dirt Rider	13.94	8.97
Discover	23.95	14.95
Dog Fancy	17.97	12.97
Dog World	22.00	15.95
Downbeat	18.00	9.95
Ebony	16.00	9.97
Economist	85.00	51.00
80 Micro	24.97	21.97
Electronic Learning	19.95	15.95
Ellery Queen's Mystery (10 issues)	17.50	9.97
Esqure	17.95	9.95
Essence	12.00	9.00
Fact	24.00	18.00
Family Computing	19.97	11.97
Family Handyman	9.95	5.95
Field & Stream	15.95	7.97
Fifty Plus	15.00	11.97
Financial Wld. 18 issues	31.00	18.95
Fishing & Hunting News	29.95	21.95
Flying	18.98	15.97
Food and Wine	20.00	15.00
Football Digest	12.95	7.97
Forbes	45.00	29.95
Fortune	44.50	22.75
Forum	18.00	15.00
Games Magazine 2 years		15.97 24.97
Gifted Children Monthly		24.00
Golf Digest	19.95	11.98
Golf Illustrated	15.00	7.97
Golf Magazine	15.94	9.97
Golf World	22.00	19.95
Gourmet	18.00	15.00
Guns & Ammo	11.94	9.97
Harpers Magazine	18.00	9.97
Health 9 issues	13.30	8.97
High Fidelity	13.95	6.98
High Technology	21.00	15.00
Hitchcock 10 issues	15.00	9.97
Hockey Digest	9.95	7.97
Home		15.00
Home Entertainment	19.00	18.00
Home Mechanics Illus.	11.94	8.97
The Homeowner 6 iss.	10.80	8.97
Home Viewer	18.00	11.97
Horizon 10 issues	21.95	16.00
Hot Rod	13.94	8.97
Humpty Dumpty: ages 4-7	11.95	9.97
Inc.	18.00	12.00
InCider	24.97	21.97
Income Opportunities 10 issues	6.60	3.98
Inside Sports 10 issues	18.00	11.97
Instructor	20.00	12.97
Jack & Jill: ages 6-8	11.95	9.97
Jerusalem Post 24 issues	20.75	15.97
Jet	36.00	26.00
Ladies Home Journal	19.95	9.98
Lakeland Boating	15.94	7.97
Learning 87	19.95	12.90
Lefthander	15.00	12.95
Life 10 issues	25.00	12.50
"M" Magazine	20.00	14.95
MacWorld	31.00	24.00
MacUser	27.00	21.84
Metropolitan Home	18.00	9.00
Medical Update	12.00	9.95
Modern Photography	13.98	6.99
Money	29.95	15.99
Mother Jones	24.00	16.00
Motor Trend	13.94	7.97
Motorcyclist	13.94	6.97
Ms. Magazine	16.00	10.97
Muppet: ages 8-14		7.50
Musician	18.00	10.97
The Nation 24 issues	12.95	9.95
National Law Journal	59.00	29.50
Natural History		20.00
Needle & Thread	14.00	10.50
Needlecraft for Today	14.00	10.50
New Age Journal	24.00	19.95
New England Living	12.00	7.99
New Republic	48.00	28.00
New Woman	15.00	11.97
New York Magazine 2 Years	33.00	19.98 39.96
N.Y. Review of Books	30.00	25.95
New Yorker 2 years	32.00	20.00 40.00
Newsweek 52 issues 2 years	41.00	21.80 43.65
Odyssey: ages 8-14 9 issues	12.50	11.00
Owl: age 8 & up	15.00	12.95
Old House Journal	16.00	13.95
Omni	24.00	15.96
1001 Home Ideas 8 issues	14.65	11.97
Organic Gardening	12.97	11.97
Outdoor Life	13.94	7.97
Outside 10 issues	16.00	8.97
Ovation	18.00	10.00
Parenting	18.00	12.00
Parents	18.00	11.95
PC 22 issues per year	34.97	21.97
PC World	24.00	17.97
Penny Power: age 9 & up		9.95
Penthouse	36.00	30.00
Personal Computing	18.00	11.97
People	56.00	30.95
Petersen's Photographic	13.94	6.97
Playboy	24.00	19.00
Playgirl	20.00	17.50
Popular Bridge	9.95	7.95
Popular Photography	11.97	6.99
Popular Science	13.94	7.97
Practical Homeowner	10.97	9.97
Present Tense	14.00	9.97
Prevention		12.97
Psychology Today	16.00	8.00
Quick & Easy Crochet	18.00	9.97
Radio Electronics	15.97	12.97
Reader's Digest		15.41
Road & Track	19.94	14.99
Run	19.97	17.97
Runner's World	19.95	12.97
Sail	21.75	17.95
Sailing World	21.75	10.88
Salt Water Sportsman	19.95	16.95
Saturday Evening Post		12.95
Savvy Magazine	18.00	9.00
Scientific American		24.00
Seventeen		13.95
Shape	20.00	17.95
Ski	9.97	6.97
Skiing	12.00	5.97
Skin Diver	13.94	7.97
Soccer Digest 6 issues	7.95	5.97
Sport	12.00	7.97
Sporting News 22 issues	22.00	11.99
Sports Illustrated 2 years	58.80	29.45 58.87
The Star	32.00	16.00
Stereo Review	10.00	4.99
Stereophile	20.00	14.97
Stone Soup: ages 8-12	18.00	16.50
Stork: age 3 & under	11.95	9.97
Success Magazine	14.00	8.97
Sylvia Porter's Per.Fin.	19.97	11.97
Taxi (Fashion)	24.00	17.97
Teaching and Computers		15.95
Teaching Pre K-8	15.00	12.98
Teen	12.95	7.95
Teen Beat	11.95	10.95
Tennis	17.94	8.97
Theatre Crafts	24.00	14.95
Time 52 weeks 104 weeks	58.25	29.12 58.25
Tours & Resorts	12.00	9.97
Travel & Leisure	20.00	18.00
True Story	15.00	8.97
Turtle: pre-school	11.95	9.97
TV Guide	31.20	26.00
Twilight Zone	15.50	11.97
Ultrasport	18.00	10.97
Unique Homes 6 iss. yr.	29.97	19.97
US Magazine	23.95	12.98
U.S. News & World Report	34.50	17.25
USA Today	130.00	86.95
Vegetarian Times	19.95	14.95
Venture	18.00	9.00
Video	12.00	8.97
Video Review	12.00	6.97
Village Voice	32.75	16.50
"W" Magazine	26.00	17.95
Weight Watchers	13.97	11.97
Wind Surf	19.00	17.95
Winning (Bike Racing)	19.95	15.95
Workbasket	6.00	5.00
Workbench	6.00	5.00
Working Woman	18.00	15.00
World Press Review	16.95	14.98
World Tennis 6 issues	7.97	5.97
World Traveling	11.00	9.95
Writer's Digest 9 issues		9.97
Yachting	19.98	16.97
Yankee (Colonial)	18.00	14.95
YM (Young Miss Mag.)	14.00	10.95

All subscriptions are for one year unless otherwise noted. • "Usual Price" is the publishers official subscription price. Newsstand rates are generally higher. • **We gladly accept magazine renewals** — even if your original subscription was ordered elsewhere.

LOWEST PRICES GUARANTEED!

AFT members can purchase many magazines from us for far less than the general public can buy them!

AFT Subscription Services
9 Northern Blvd., Box 258, Greenvale, NY 11548
To order your magazines at our discount prices, please fill out and mail in this coupon.

Name _____

Address _____

City _____ State _____ Zip _____

Your School _____

Please allow 8-12 weeks for your first issue to arrive.
Renewal orders: Please send the address label from your magazine at least 8 weeks before the expiration date.

Name of Publication	Years	Price
	Total	

☐ **Check enclosed (made payable to AFTSS) or**

☐ **Visa or** ☐ **MC #** _____ **Exp. date** ____

For more information circle 1 on Product Information Card.

1-800-242-5465

The Learning Line

A Fun Way for Kids to Learn Outside of the Classroom.

Reach out to parents in your community, so they can become more involved with their children's education.

Let them know about the Learning Line—a toll-free number families can call for new learning tips every day.

The American Federation of Teachers Public Relations Department has flyers and bookmarks to send home with your students, posters to place at community centers, and telephone stickers to serve as handy reminders.

The American Federation of Teachers
Public Relations Dept.
555 New Jersey Avenue, N.W.
Washington, D.C. 20001

Contact the Public Relations Department to receive an order form.

American Federation of Teachers
555 New Jersey Ave., N.W.
Washington, DC 20001

Nonprofit Org.
U.S. Postage
PAID
Permit #4144
Southern Maryland
Division
20790