

narrated by an astronomer who takes the audience on 25-minute tours of the night sky. Each tape presents the night sky at the height of one of the four seasons.

Joseph R. Hill, director of Educational Communications, explains the planetarium's value, "If we amortize the cost over a five-year period, it means we're making this resource available to schools at an average cost of \$64 per school per year."

For more information contact Joseph R. Hill, Allegany BOCES, 6 South Street, Belmont, NY 14813.

Research on Teaching

JANET FLEGG

■ OBSERVATION CAN IMPROVE TEACHING

Feedback. Without it, people sometimes can't tell if what they're doing is right or wrong. If time is ample, people can provide their own feedback by observing the consequences of their actions, but most teachers have neither a critical adult to give them feedback nor time to do it themselves.

Sometimes, simple but invisible problems can be quickly spotted by other teachers. For example, when working with a reading group, many teachers sit with their back to the rest of the class, making it difficult to monitor the class. An observant colleague can spot such things and help the teacher become aware of them.

Jere Brophy and Tom Good suggest the following classroom-observation guidelines:

—Collect behavioral data from the classroom.

—Identify problems or possible focal areas for teacher development suggested by data.

—If possible, identify how the teacher is more effective in one area than another, so changes involve extending existing behavior to new situations (or being more consistent)

rather than switching to entirely new behaviors.

—Describe the problem as you see it, but allow teachers to give explanations before suggesting changes (maybe there's a good reason for behavior that seems ineffective).

—Pinpoint specific differences in teacher behavior and suggest specific changes.

—If the teacher agrees, engage in mutual problem solving until explicit changes are agreed on.

—Specify exactly what the changes will be.

—Arrange to get additional data to evaluate the degree to which the teacher has changed and to identify any possible effects, direct or indirect.

—Hold a debriefing session to review study results and reevaluate suggested behavior.

For further information, send for IRT Occasional Paper No. 21, *Using Observation to Improve Your Teaching*, by Jere E. Brophy, \$1.50. To order, send check, money order, or *prepaid* purchase order (payable to Michigan State University) to IRT Publications, 252 Erickson, MSU, East Lansing, MI 48824. (Michigan residents should add 4 percent state sales tax.)

■ PLANNING CALLED "CORE OF TEACHING"

Most work on making schools more effective focuses on improving teaching techniques and strategies, curriculums, and materials. Little or no effort goes into improving teacher planning, but, according to Christopher M. Clark and Robert J. Yinger, effort devoted to teacher planning pays off. After doing a number of studies on teacher planning, Clark and Yinger report the following findings and suggestions:

—Elementary teachers spend an average of 12 hours per week planning, but that planning time is hard to come by. Clark and Yinger suggest administrators set aside some inservice days for individual and group teacher planning.

—Extra planning time is important during the first few weeks of school because it is then that rules, routines, schedules, grouping, and expectations are pilot tested and set for the entire school year.

—Teacher planning transforms curriculum into instruction. New curriculums should be comprehensively introduced and analyzed by teachers during the previous spring for most effective teacher planning the next year.

—Clark and Yinger suggest that teachers keep journals, detailed records of their planning and the results, and perhaps share these with each other in inservice meetings. This way teachers become researchers of their own teaching.

For further information, send for IRT Research Series No. 77, *The Hidden World of Teaching: Implications of Research on Teacher Planning*, by Christopher M. Clark and Robert J. Yinger, \$2. Send check, money order, or *prepaid* purchase order (payable to Michigan State University) to IRT Publications, 252 Erickson, MSU, East Lansing, MI 48824. (Michigan residents should add 4 percent state sales tax.)

■ STUDENT CHARACTERISTICS AFFECT TEACHING

"That kid has caused trouble since the day she was born, and I know she's going to be a real troublemaker in my class." What student characteristics would cause a teacher to make such an accusation? What effect on a student would such an expectation have? Researchers Jere Brophy and Carolyn Evertson (with Linda Anderson, Michael Baum, and John Crawford) addressed these questions and more in the Student Attribute Study, a research project designed to "study individual differences in students by identifying student attributes associated with contrasting teacher expectations, attitudes, and behavior."

In 27 classes in six urban elementary schools, the researchers collected teacher self-report data and made classroom observations. Several times during the school year, the teachers ranked each of their students on 13 seven-point scales.

The scales measured student attributes that previous research had suggested as correlates of teacher expectations, attitudes, and behavior. A few of the scales were, for example, careful vs. careless, mature vs. immature, happy vs. unhappy, attrac-

tive vs. unattractive, noticeable vs. not noticeable, cooperative vs. not cooperative, and persistent vs. gives up easily.

Brophy and Evertson found that although immature students presented frequent and serious problems to teachers, the teachers did not blame or reject them. They were able to criticize the behavior rather than the student and thus maintain a good personal relationship with such students. The teachers were not as positive, however, with students who were held responsible and blameworthy for their inappropriate behavior, especially if that behavior was frequent or severe.

Brophy and Evertson report this and other findings in the book, *Student Characteristics and Teaching*, (\$22.50), published by Longman Inc., 19 W. 44th Street, Suite 1012, New York, NY 10036.

The Future

CHRISTOPHER J. DEDE AND
ARTHUR J. LEWIS

■ NOVEMBER CONFERENCE

November 5-7 the Education Section of the World Future Society will hold its Fourth Annual Conference in Salt Lake City. The theme is "Educational Futures: Topics for a Human Agenda," an exploration of human capabilities. The Education Section is the professional association of educational futurists; its meetings bring together teachers, administrators, policy analysts, and the like for sharing of ideas and resources.

Keynote speakers include Robert Theobald, Jean Houston, Marilyn Ferguson, James Ogilvy, and Kathleen Redd. There will be specialized presentations in the areas of corporate and educational planning, futures curriculum, and futures research. The fastest way to learn about educational futurism and be linked into existing networks of resources is to attend an Education Section meeting. For more information and registration forms, write Dennis Van Avery, World Futures Conference, Westminster College, 1840 South 13th East, Salt Lake City, UT 84105.

Women in Education

NANCY S. OLSON

■ MATH/SCIENCE NETWORK

Why are women 2 percent of the engineering and 99 percent of the secretarial work force? Patterns of education and socialization discourage their entry into nontraditional occupations, says the Math/Science Network. By promoting participation of girls and women in math and science courses, the Network hopes to expand women's career options.

The Network holds a series of nationwide conferences each spring and refers speakers or career panels to motivate girls and women toward math and science. The Network also does some job referral in the Bay Area.

For more information contact Jan MacDonald, Coordinator, Math/Science Resource Center, Mills College, Oakland, CA 94613. (415) 430-2230.

■ NO ONE'S HOME

In a recent poll by *Parents* magazine, only 7 percent of the respondents thought their daughters would be homemakers exclusively. The majority thought their daughters would work because they want to or to help support a family. Three percent thought their daughters would be career women exclusively.

■ SEXISM AFFECTS MEN

The Tie That Binds: The Price of Pursuing the Male Mystique (\$1), a report tracing how sexism affects men and shapes their lives, and a kit of materials for ending sex bias in your school, *Cracking the Glass Slipper* (\$5), are available from the Project on Equal Education Rights (PEER). *PEER Perspective* is a free quarterly newsletter focusing on developments in Congress, the courts, the Department of Education, and schools. To add your name to the mailing list or order publications, contact: PEER, 1112 13th Street NW, Washington, DC 20005. (202) 332-7337.

■ TIPS AND CHALLENGES

Facing the Future — Education and Equity for Females and Males, a brochure published by the Council of

Chief State School Officers' Resource Center on Sex Equity, contains facts about equity issues and tips and challenges for elementary and secondary school teachers.

The brochure results from regional seminars on educational policy and sex equity held by the Council and the National Association of State Boards of Education. It was funded by the Women's Educational Equity Act Program of the U.S. Department of Education and the Ford Foundation.

A free copy of the brochure is available from Susan Baily, Resource Center on Sex Equity, Council of Chief State School Officers, 379 Hall of the States, 400 N. Capitol Street NW, Washington, DC 20001.

■ NORTHEAST COALITION

A New England organization to promote women in school administration recently expanded its membership base to include New York, New Jersey, and Pennsylvania.

The New England Coalition of Educational Leaders "helps members navigate the job market in educational administration. It helps women understand the job market and be competitive in it. Once they're in positions of leadership, NECEL members are provided support, which helps cut down the isolation an administrator might feel," said Lenor G. Hersey, Executive Director.

The group includes assistant principals through superintendents in public schools, central office administrators, and professionals in state departments of education. NECEL publishes a list of jobs available in educational administration and helps potential employers identify women candidates throughout the region.

Contact: NorthEast Coalition of Educational Leaders, Inc., P.O. Box 637, Lincoln, MA 01773. Phone: (617) 259-9298.

Learning Styles

RITA DUNN AND
NANCY RECKINGER

■ READING STYLES

The experimental Reading Style In-

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