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Comprehension Instruction: Perspectives and Suggestions.

Gerald G. Duffy, Laura R. Roehler, and Jana Mason.

New York:

Longman, Inc., 1983.

—Reviewed by Phil Vik, University of South Dakota, Vermillion, South Dakota.

Designed to improve the teaching of comprehension in reading and other content areas, this volume synthesizes research on the subject from the Institute for Research on Teaching and the Center for the Study of Reading.

Part 1 sets the stage for examining comprehension instruction; part 2 focuses on constraints of instruction; part 3 examines various kinds of texts and readability formulas; part 4 emphasizes how to teach comprehension, including teacher questioning, instructional strategies, direct explanation, and others;

and the last chapter summarizes parts 2-4.

Available from Longman, Inc., 1560 Broadway, New York, NY 10036, for \$29.95. □



Briefing

Curriculum Trends: Science

EDWIN P. WHITE AND KAREN TEUMAC

For Principals Only

Conceived at the 1980 NSTA Board of Directors meeting, the Project for Promoting Science Among Elementary Principals has blossomed into a series of four handbooks just released by the National Science Teachers Association. The handbooks identify characteristics of good science programs and assist principals in assessing the effectiveness of the elementary science program in their school.

Handbook I relates science to "basic skills" and to art, music, health, and other areas of the curriculum. *The Principal's Role in Elementary School Science*, Handbook II, is designed to help principals improve and maintain quality science programs. Handbook III, *Characteristics of a Good Elementary Science Program*, provides the principal with a

method and a checklist by which to evaluate current elementary science programs. *What Research Says About Elementary School Science*, Handbook IV, relates research findings to promote effective science programs.

The entire set costs \$15.25 plus \$2.00 postage and handling, and may be ordered from NSTA, 1872 Connecticut Ave., N.W., Washington, DC 20009.

Women in Science

Research indicates that only 9 percent of the nation's scientists and engineers are women, that adolescent girls have poorer attitudes toward science, enroll less often in science courses, and achieve overall lower levels in science.

June Kahle of Purdue University identifies several social, educational, and personal factors that contribute to these statistics. A lack of role models and sex role stereotyping are the major social factors that account for fewer women in science. With women comprising only 24 percent of science teachers, adolescent girls perceive science and mathematics as a masculine subject. Regarding educational factors, Kahle reports that females take one-third less mathematics and one-half less science than their male counterparts. A

lack of math sophistication alone eliminates many women from careers in science. The most significant personal factor is females' difficulty in grasping spatial visualization. Long believed to be due to slower developmental patterns, recent research indicates that females are simply not routinely exposed to courses that develop three-dimensional abilities. Equally trained, Kahle says, females and males perform comparably.

The remedy to best prepare females for science vocations, at least to encourage interest, lies within the science classroom itself. Research indicates the girls have fewer experiences with the instruments and materials of science, a disadvantage that can be overcome by creating classroom experiences that allow girls to obtain the same education as boys.

Kahle's report was selected as the 1983 Outstanding Paper by the Association for the Education of Teachers of Science. Copies may be obtained from: Carolina Biological Supply Company, Burlington, NC 27215.

The Return of the National Science Foundation

With the announcement of two new programs last June, the National Science Foundation is again supporting

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projects in pre-college science and mathematics. Funds for the Science Education Directorate of NSF were systematically curtailed in 1975 and, in 1981, completely stopped. "Honors Workshops for Pre-College Teachers of Science and Mathematics" and "Materials Development for Pre-College Science and Mathematics Program," coupled with the recent report of the National Science Board Commission (outlining steps for educational improvement in math, science, and technology) clearly signal a limited return of national involvement in pre-college science and mathematics.

"Honors Workshops for Pre-college Teachers of Science and Mathematics" addresses the need to maintain and increase the instructional quality of science and math teachers in grades K-12. Two million dollars has been budgeted for FY83. The major focus is on identifying, rewarding, and utilizing the talents of the quality teachers who are already employed in our public schools. The "Honors Workshops" may be one useful way to recognize effective teachers and encourage others to follow their leadership.

The "Materials Development for Pre-college Science and Mathematics Pro-

gram" is focused on long-term benefits with a budget of eight million dollars for FY83. Projects that provide models/demonstrations of continuing education, development of instructional materials, analysis of math and science instructional systems, dissemination of information, and illustrations of applied research will be eligible for funding. NSF seeks proposals dealing with national issues rather than ones of only local importance.

To obtain a copy of the proposal guidelines write to: National Science Foundation, Washington, DC 20550, and request publications NSF 81-79, 83-6, and 83-44.

Educating Americans for the 21st Century

In *Educating Americans for the 21st Century*, the National Science Board Commission on Pre-college Education in Mathematics, Science, and Technology outlines specific proposals for the improvement of education. The report maintains, first, that the current operational definition of the "basics" must be expanded to include "communications and higher problem-solving skills, and scientific and technological literacy—the thinking tools that allow us to un-

derstand the technological world around us." Second, it establishes a reasonable, long-range goal:

By 1995, the Nation must provide for all its youth, a level of mathematics, science and technology education that is the finest in the world, without sacrificing the American birthright of personal choice, equity, and opportunity (p. V).

The report also calls for the emergence of strong leadership and specifically regards the National Science Foundation to be a leadership source crucial to significant improvement.

In identifying major areas for which resources need to be allocated, the report includes: quality teaching; early exposure to math, science, and technology; increased instructional time; development of new curricula; use of technology; and improved classroom conditions. Although specific recommendations in the report may be debated, nevertheless it represents a significant reversal of the recent role that the federal government has played in science education.

Single copies may be obtained by writing to: National Science Board, National Science Foundation, Washington, DC 20550.



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