NARST Newsletter

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naRst, or narST, or naRST?

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When we describe ourselves, do we use a bigger R with a small st, a small r with a larger ST or an equal emphasis on both r and st? Do we consider science teachers as our subjects or our colleagues? As subjects, they are the objects of our "treatment". As colleagues, they are the ones with whom Webster defines "in speaking together".

"Speaking together" represents a marvelous way to cooperate in a joint enterprise in contrast to competing for time and space in a crowded science classroom agenda. There teachers have many questions and concerns about how to be more effective. They are eager for practical answers to these issues. As part of our research community, they can provide significant questions. As researchers in this community, we have the resources and skills to search for answers — or research. Are we open to linking with the ST of our name to cooperate in a *R* effort?

It can be postulated that when I find answers to a question of importance to me — I will embrace that answer, own it and probably be more likely to act on it. Here we have the opportunity to become involved with science teachers in efforts that will strengthen our "speaking together". As an organization, NARST members should enthusiastically endorse Bill Holliday's proposal to work with teachers in San Francisco and at home.

San Francisco in 1986

Please complete the enclosed dues invoice, election ballot, advance registration form and hotel reservation card.

Nearly half of the membership attended this year's meeting at French Lick Springs Golf and Tennis Resort in Southern Indiana. Next year, NARST expects another large turn out because of our overlap with NSTA's convention, (2) our meeting place - San Francisco, (3) the Muir Woods-Sausalito tour on Easter morning, (4) the extraordinary luncheon in the afternoon of Easter day, and (5) the wide variety of presentations (over 150 proposals are being evaluated) focusing on current research issues and on the practical needs of classroom teachers.

Register today for the San Francisco meeting and stay at the NARST/NSTA hotel of the highest quality - with the largest discounts. The Hotel Meridien is one block from NSTA's Moscone Covention Center - *closer* that the other NSTA hotels.

Easter Morning Tour

Muir Wood (redwoods) and Sausalito

Attendees at the San Francisco meeting will be offered a tour of: (1) Muir Woods National Monument with its towering sequoia forest, (2) a light breakfast, and (3) a visit to Sausalito — a Riviera-like bayside village. This tour will be a great opportunity for all of us to share ideas while seeing some of the natural sites of the San Francisco area.

The tour will begin at nine o'clock, cross the Golden Gate Bridge into Marin County, and return to the Hotel Meridien in time for NARST's most elegant luncheon banquet in the history of our Association. Even better, the cost of this luncheon will *not* be extra to registration fees, in contrast to recent policy.

Bringing science teachers and research people closer together

NARST wants to bring teachers and researchers closer together. So, NARST and NSTA are negociating a proposal whereby science teachers can consult with a university researcher on an *individual* basis concerning topics such as: (1) preparing research

proposals, (2) applying research results, (3) doing research studies, and (4) writing professional papers.

Here is how this experimental consulting program would work. NARST would offer teachers registered at both NSTA and NARST conventions in San Francisco the chance to talk in depth on a personalized basis with a researcher from NARST about a topic of mutual concern. Teachers would register for this program 30 days in advance of the March meetings. Before these spring conventions, NARST would telephone the participants, arrange for meeting places and times, monitor the effectiveness of these meetings, and evaluate this trial NARST/NSTA program.

Representatives from both associations have expressed qualified enthusiasm for this experimental consulting program and expect to make a final decision, soon. A cross-section of science teachers of varied experience will be encouraged to participate in this limited program, tentatively scheduled for March 26-30. For more information, write or telephone NARST.

First Inter-American Seminar on Science Education:

Science Education and Cultural Environments in the Americas

The National Science Teachers Association (NSTA), the Organization of American States (OAS), and the National Science Foundation (NSF) jointly sponsored the first Inter-American Seminar on Science Education entitled "Science Education and Cultural Environments in the Americas" in Panama, December 10-14, 1984. Forty-two science educators from 14 American nations, including the Caribbean, participated.

A second Inter-American Seminar is now in its early planning stages. Tentatively, it is scheduled to be held just prior to the 1987 NSTA Annual Convention in Washington, D.C. The proposed theme for the seminar will be Educating Younth for a World of Advancing Technology.

For further information, please contact: Dr. James J. Gallagher, 327 Erickson Hall, Michigan State University, East Lansing, MI 48824-1034 (phone 517-355-1725) *or* Dr. George Dawson, EDU 209, Florida State University, Tallahassee, FL 32306 (phone 904-644-5044).

International Committee

In 1984 Ertle Thompson appointed an ad hoc committee on international issues in science education research. This committee will continue to function throughout the coming years. Its members hope to provide communication among NARST members in the United States and in other countries through an occasional column in the NARST newsletter. This column may contain information about conferences, opportunities for exchange programs among science education faculties, and the reactions of individuals who have participated in such activities.

This column's purpose is to alert NARST members to the 1986 meeting entitled the First Regional Consultation on Science Education Research in Latin America and the Caribbean. The conference will be held on the island of Trinidad from noon, February 12, to the evening of February 15, 1986, in the Trinidad Hilton.

The conference will provide an opportunity for (1) interaction of persons involved in science education research, (2) discussion of science education research findings and their implications, (3) formulation of a policy for future cooperative research activities by science education researchers in the Caribbean and the Americas, (4) discussion with international science education researchers on the application of science and technology to education problems in developing countries, and (5) acquisition of new research skills as well as the updating of old ones.

Researchers may submit contributed papers, paper sets, or poster session ideas. Dr. Pamela Fraser-Abder, Faculty of Education, University of the West Indies, St. Augustine, Trinidad, West Indies is in charge of the conference. NARST members may contact Dr. Arthur L. White, Department of Educational Theory and Practice, 249 Arps Hall, Ohio State University, 1945 N. High St., Columbus, OH 43210 or Dr. Donna F. Berlin, OSU Newark Campus, for more information on this conference. Dr. White's telephone number is (614) 422-4121. He will relay information or questions to Dr. Abder — Patricia E. Blosser, chairperson of NARST International Committee.

Candidates for NARST 1986 Election

Drs. Ertle Thompson, Robert Howe, and David Lockard of the Election Committee present the slate of candidates for the 1986 NARST election. Addi-

tional nominations may be made by petition of ten members. Petitions must be received by the Executive Secretary by December 27, 1985. (To save mailing costs, the ballot is included with this mailing. If a petition is received requesting additional candidates, a new ballot will be distributed in mid-January.) The enclosed ballot must be received by February 15, 1986.

President-Elect

Linda R. DeTure
Rollins College

Linda DeTure holds an A.B. degree in Microbiology and Chemistry from Florida State University and a M.Ed. in science education and a Ph.D. in curriculum and instruction from the University of Florida. After two years as a clinical chemistry technologist, she began her science education career teaching Biology and Chemistry in Secondary schools in Florida for seven years. Following that she taught methods classes at the University of Florida for two years and was the science coordinator of the Learning Resources Center at the University of Maryland, before settling at Rollins College where she directs the student teaching program and teaches methods classes. Dr. DeTure also taught biology in Florida's TEC summer institutes. Currently, she is Associate Professor of Education at Rollins College.

With a strong emphasis on teacher training, her research interests focus on implementing research into practice. Her special interest include wait-time, student-teacher interactions, modeling, the role of clinical supervision, teacher effectiveness training and underachieving college science students.

Dr. DeTure was named the Outstanding Teacher in the State of Florida for working with students doing independent science research (1970). She received the NARST Patrons Award for Outstanding paper in 1978; the JRST Article Award in 1979 and, at Rollins, the Additions Outstanding Service Award in 1984. Her publications have appeared in major science education journals and she has been a frequent abstractor for Investigations in Science Education. She has presented workshops and has been a consultant in several states.

Currently active and on committees in many teacher and science education organizations, DeTure has served as chairman of the NSTA Research Committee, District Director for FAST and local arrangements chairman for the NABT convention in Orlando. She has been a member of the editorial boards for JRST and SSMA for four years.

Dr. DeTure has served NARST as a member of the Executive Board from 19821985; has been on the Research Committee and the Patrons Committee for Funding and for three years has been chairman of the NARST Awards Committee. A frequent presenter at national and regional meetings, Dr. DeTure has been a consistent participant at the NARST annual meetings.

Burton E. Voss
University of Michigan

Dr. Voss is presently a Professor of Science Education at the University of Michigan, Ann Arbor, Michigan. He has been at the University since August of 1963. He began his teaching career as a biology and general science teacher at Fulton High School, Fulton, Illinois in 1950. Subsequently he was drafted into military service during the Korean War where he served in biological research doing brain biochemistry research at the Army Chemical Center, Edgewood, Maryland (1953-55). Following his military service he taught science at the University Laboratory School, University of Iowa from 1955-58. From 1958-1963, he served as an Assistant Professor at the Pennsylvania State University. He received his Ph.D. from the University of Iowa in 1950.

At the University of Michigan Dr. Voss directs the Science for Teachers Program, undergraduate and graduate programs, and science institutes for inservice teachers. He also has supervised over 40 doctoral dissertations dealing with science teacher-student classroom interactions; learning theory applied to classroom learning situations; and teacher education needs. He has also been involved in the area of evaluation of K-12 science programs as evidenced by his work with the National Assessment of Educational Progress; the NSTA Self-Assessment of Junior and Senior High Schools Science Programs, and the Department of Defense Schools Overseas Evaluation of Science Programs. These interest areas have been subjects of presentations at NSTA and NARST meetings.

Dr. Voss has served NARST in a variety of ways such as serving on its program committee several times, the outstanding research paper award committee, chairing the conference evaluation committee, and chairing the NARST Ad Hoc Committee on how research findings can be disseminated at the local level.

Executive Board

Linda W. Crow
Houston Community College System

Dr. Crow holds a B.S. degree in biology and chemistry in addition to two degrees in science education. She also has extensive work in marine geology and statistics. Her professional experience began with three years as a teacher of physical science, biology, chemistry, earth science, and oceanography. Since receiving her doctorate in 1978 from the University of Houston, she has been teaching earth science and coordinating the teacher training efforts at Houston Community College System.

She presents frequently at NARST, NSTA and AETS. Her publications include contributions to a monograph, college laboratory manual, and several articles in JRST, SSM, and JCST. In 1985 she received an NSTA Gustav-Ohaus award for innovations in college science teaching. Currently she is working on a national level with the American Geological Institute to establish a national network of research and curriculum development in the earth sciences. Her college awarded her the outstanding teaching award in 1984.

Dr. Crow has served as a member of NARST committees such as the Placement Committee and the NARST Awards Committee. She also serves on the JRST editorial board. In addition, she is the 1985-1986 chairperson of the Advisory Board to the *Journal of College Science Teaching* and has been offered a column in that same journal. She is also a member of Phi Delta Kappa, the Society of College Science Teachers, the National Association of Geological Teachers and the Houston Geological Society.

An active researcher, Dr. Crow is interested in the maximization of science achievement and attitudes toward science. She has conducted research using elementary, secondary, and college students. She represents a new type of science educator, one that is a practicing pure science teacher and educational researcher in the new frontier of community college.

Ronald G. Good
Florida State University

Dr. Good has earned degrees from Slippery Rock State College (B.S., 1962 -physics, chemistry), The University of Pittsburgh (M.Ed., 1964 - science education, Ford Foundation fellowship), and The University of North Carolina at Chapel Hill (M.A.T., 1966 - physi-

cal sciences, NSF fellowship; Ph.D., 1968 -science education, Ford Foundation fellowship). His science teaching experience includes physics and chemistry at the high school level, junior high school physical science, college physics for teachers, and many undergraduate and graduate courses in science education at Florida State University, where he has worked since 1968. His early work and interests at FSU concentrated on applying certain cognitive developmental psychology concepts to investigating how students learn science, resulting in a number of papers and his major book on the subject, How Children Learn Science. Since the mid-seventies Dr. Good has focussed his attention on how post-elementary school students use science knowledge to solve problems and ask research questions.

Currently, Dr. Good is coordinator for FSU's Cognitive Science Study Group, Co-Director for the related Institute for Cognitive Sciences, Director of FSU's Science and Mathematics Software (SAMS) Lab, and he remains active in teaching and writing in science education. Recently he represented FSU at meetings of The Cognitive Science Society and The International Joint Conference on Artificial Intelligence in California. Dr. Good regularly presents papers at NARST meetings and has organized symposia at the 1983 and 1985 meetings. He is a member of the JRST Editorial Board and the Policy Advisory Committee. At the 1982 NARST meeting he received the JRST Award for his paper (with H. Fletcher) "Reporting Explained Variance".

For some years Dr. Good has encouraged the NARST leadership to involve the organization more closely with research-related projects that could have more direct and widespread effects on science teaching and learning. He is coordinating such a project (along with James Shymansky at Iowa) that involves NARST, NSTA, AAAS, and other professional groups in an attempt to provide guidelines and criteria for improving K-8 science textbooks and related instructional materials, and their selection by schools.

Sarah L. Ulerick
University of Oregon

Sarah Ulerick is currently Instructor in Geology at the University of Oregon in Eugene, Oregon. She received her Ph.D. in Science Education from the University of Texas at Austin and her B.A. from Harvard. She has taught introductory geology and environmental geology in both the university and community college settings for ten years.

Dr. Ulerick's research interests are in text comprehension and text analysis; the organization of content in oral and written discourses and curricula; student's "misconceptions" in science; and, in general, application of cognitive science research to science education. She has given numerous presentations at NARST and AERA, as well as an invited presentation at NSTA.

Her involvement with NARST has included serving on the program committee and serving as discussant and moderator at the annual meetings. Dr. Ulerick also has participated in NSF review panels for grants in science education.

Dr. Ulerick actively promotes science education within the university science community. She was one of five science faculty members who were awarded an NSF grant for an Honors Workshop, the Oregon Science and Mathematics Institute for Teaching Excellence (SMITE). The institute began this summer (July 28 to August 8, 1985) and continues through the year with two follow-up conferences. Dr. Ulerick also advises many pre-service secondary science teachers about their program of studies and serves on university committees concerned about teacher education.

Emmett L. Wright
Kansas State University

Emmett Wright holds a B.S. degree in biology with minors in chemistry and mathematics from the University of Kansas, an M.A. degree in science education from Wichita State University and a Ph.D. (1974) in science education and environmental biology from the Pennsylvania State University. Presently, he is Professor of Education at Kansas State University.

Dr. Wright has taught secondary school science and mathematics in both junior and senior high schools in Kansas, served as Director of Health Education for the Hertzler Medical Research Foundation, and as the K-12 science coordinator for the laboratory schools at Pittsburg State University. He has been a college teacher for fourteen years, two at Kansas State University, two in the Biology Department at Pittsburg State University, and ten as a joint appointment in environmental studies and science education and as director of the Science Teaching Center at the University of Maryland. His main work has been teaching and doing research in science and environmental education in the elementary and secondary schools. He received the University of Maryland's Distinguished Scholar/Teacher Award in 1983. Currently, as coordinator of the Science Education Program, Wright is in the process of organizing a campus-wide center for science education at Kansas State University. He also teaches undergraduate science methods and environmental education courses as well as various doctoral level research courses. Wright has worked with numerous doctoral students, both as a committee member and as a major professor.

Dr. Wright's research interests include work on environmental decisionmaking skills and attitudes, the improvement of open exploration and problem solving skills of secondary and college level students, and the scientific misconceptions of preservice and inservice elementary and middle school teachers. These interests have lead to many papers at NARST, AETS, NSTA, and AERA meetings and several articles in *JRST Science Education, School Science and Mathematics, The Science Teacher* and other journals.

He has also been extensively involved in curriculum development and evaluation serving as director for several projects that have produced interdisciplinary, contemporary issues and instructional materials including the management of the Chesapeake Bay ecosystem. His research and instructional development has resulted in more than 60 publications.

Professionally, Dr. Wright has contributed to many organizations and journals. He has served as Newsletter Editor and President of the Maryland Association of Science Teachers, and for the past two years as a member of the NSTA Board of Directors and Executive Committee. He has chaired the College Committee, is serving on the *Journal of College Science Teaching* Advisory Board, and the 1987 National Convention Committee. He received the NSTA Gustau Ohaus Award for Innovation in College Science Teaching in 1983.

Dr. Wright is book review editor for the *American Biology Teacher,* consulting editor for *Science Activities* and has reviewed articles for *JRST, The American Biology Teacher, School Science and Mathematics* as well as various other journals. For NARST he has served as a member of the Research Grants Committee, the Awards Committee, and presently is on the Program Committee. Dr. Wright is a member of the Board of Directors of the Kansas Academy of Science and Director of the Junior Academy of Science.

Research Coordinator

Rodger W. Bybee
Biological Sciences Curriculum Study

Rodger W. Bybee is currently a staff associate with the Biological Sciences Curriculum Study in Colorado Springs, Colorado. For twelve years prior to this position, Dr. Bybee was a professor of education at Carleton College, Northfield, Minnesota. He received his Ph.D. degree in science education and psychology from New York University. His B.A. and M.A. are from the University of Northern Colorado where he majored in biology and fine arts as an undergraduate and science education and earth sciences as a graduate student. Rodger has taught science at the elementary, junior and senior high school, and college levels.

Among other professional organizations, Dr. Bybee is a member of the National Association for Research in Science Teaching, the National Science Teachers Association, the National Association of Biology Teachers, and the American Association for the Advancement of Science. Throughout his career, Rodger has written widely, publishing education and psychology articles in journals such as *The Journal of Research in Science Teaching, Science Education,* and the *Journal of Social Issues.* In addition, he has authored or coauthored the following books: *Violence, Values, and Justice in the Schools, Piaget for Educators, Becoming a Secondary School Science Teacher, Science and Society: A Source Book for Elementary and Junior High School Teachers,* and *Human Ecology: A Perspective for Biology Education.*

Presently, Dr. Bybee is interested in the implications of science- and technology-related global problems and the implementation of the science-technology-society theme in science education. Rodger continues his research in those areas by developing curriculum materials and instructional strategies for teaching about science and technology and their effect on societal issues.

Dorothy L. Gabel
Indiana University

Dr. Gabel received her A.B. degree in chemistry from Rosary College, River Forest, Illinois, an M.S. in chemistry from Purdue University in 1969 and a Ph.D. in Science Education from Purdue University in 1974. She has been a secondary chemistry, mathematics, and physics teacher for 11 years in Madison, Wisconsin, and Omaha, Nebraska. Dr. Gabel has been a member of the faculty at Indiana University since 1974 where she directed the Secondary Science Teacher Preparation Program from 1974-1978 and currently teaches a Basic Science Skills course for preservice elementary teachers, as well as a research seminar for beginning doctoral students in Curriculum and Instruction. Presently, she is professor of Science Education at Indiana University.

Current interests include research on problem solving in high school chemistry, and the teaching of chemistry in the elementary school.

Dr. Gabel has served as a member of various NARST committees: Research, Awards, Program, Editor Selection and Financial Advisory. She was a member of the editorial board of JRST from 1981-1984. Dr. Gabel frequently makes presentations at the NARST Annual Meetings and was the recipient of the JRST award for 1977 and for 1979. She also received the award for an outstanding paper emphasizing classroom application in 1980 and in 1981.

In addition to her involvement with NARST, Dr. Gabel has been active in NSTA serving on their Board of Directors from 1983-1985 as the Research Division Director and on the Executive Committee 1984-1985. She is currently serving on the Board of School Science and Mathematics as well as on the Executive Committee. Recent involvement with ACS includes serving on the writing committee of "Guidelines for Laboratory Use in High School Chemistry" and on the planning committee for "Chemistry in the K-9 Curriculum" conference.

Dr. Gabel's publications include research articles in *JRST, Science Education,* and *SSMA.* She prepared the Review of Research in Science Education for 1978, and is the author of a textbook on problem solving for high school chemistry students which was published in 1983 and a science process skill textbook for elementary education majors published in 1984.