

# NARST

# NEWS

NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING

Thaddeus W. Fowler, Editor, University of Cincinnati, OH

Vol. 31 June 1989

## P R E S I D E N T

William G. Holliday  
University of Maryland at College Park

### Report to the Membership

The *Journal of Research in Science Teaching's* editors and reviewers plan to increase editorial and research standards because of the increasing numbers of submitted manuscripts and NARST's continuing goal to improve the quality of articles appearing in our Journal. Established researchers are encouraged to facilitate the reviewing process by volunteering their services to our new editor-appointed, Ronald Good. (See his article in this issue of the newsletter.) In addition, NARST is particularly grateful for Russ Yeany's contribution of leadership and competence during his five-year term as the Journal's editor. Manuscripts should now be forwarded for review to Ron Good at Louisiana State University in Baton Rouge. Authors will find him quite fair- and open-minded, and eager to publish a wide variety of competent research studies of interest to scholars focusing on descriptive and experimental research.

The 1989 Annual Meeting at San Francisco was attended by about half our membership ( $n = 350$ ) and included 252 presented papers, two well-received general presentations on cognition and motivation-achievement research, a hosted reception at the Exploratorium museum and an "experimental" poster session containing 78 entries. The meeting next year (April 7-10, after NSTA) promises to be even better because the Atlanta Hilton has provided us with reasonable room rates, ample presentation space of high quality and an attractive location near NSTA's convention activities.

Member Initiated Projects—projects proposed by any NARST member should be submitted by October 5, 1989, to the **NARST Committee On Special Membership Projects**. This committee is created to help members in an *advocacy* fashion to present proposals for board consideration at the upcoming Fall meeting—proposals designed to facilitate our association's goal

*continued p. 2*

### Call for Proposals 1990 NARST Annual Meeting

This is a call to NARST members and others to submit proposals for the program for the 1990 NARST Annual Meeting. The 1990 annual meeting will be held in Atlanta, Georgia on April 8 through 11, 1990. All presenters must register for the NARST meeting.

The Program Committee encourages the submission of proposals that describe any of a variety of types of research including, but not limited to: case study, experimental, descriptive survey, documentary analysis, ex post facto, evaluation, historical, naturalistic, and philosophical.

#### PROPOSAL CATEGORIES, PREPARATION AND REVIEW

Proposals should fit into one of the seven categories of concurrent sessions presented at NARST annual meetings. Criteria and description of each category follow. Except in the case of poster sessions and seminars/workshops, it is anticipated that the research on which the session is based *will have been completed prior to proposal submission*.

- 1. Contributed Papers:** This format accommodates three or four 15-minute reports on research papers by individual researchers or groups of researchers. Contributed papers are grouped by the Program Committee and discussants usually are assigned to such sessions. Presenters must provide discussants with a copy of the research paper before the annual meeting and are encouraged to distribute copies of the paper at the session. A *Contributed Paper proposal should include*: 1) an abstract, and 2) a three to six page, double spaced, synopsis (objectives or purpose of the study, significance, design and procedures, findings or results, and conclusions) with bibliography (not counted into the six pages). The materials should be stapled together in the upper left corner.
- 2. Paper Sets:** This category accommodates several related research papers or a single paper, reporting on several studies which originate from a common base of research, presented in a single concurrent session. The format also allows for common ele-

*continued p. 2*

## President, *continued*

to improve science teaching through research. For example, some members of NARST wish to involve the Association in funded research projects sponsored by the National Science Foundation in a manner analogous to some of NSTA's efforts. Some other members wish to have NARST work much more closely with other scholarly organizations such as AERA. Still others wish to initiate projects furthering our efforts to work with practitioners.

Of course, NARST's size delimits its capacity to engage in very many projects beyond its central activities of operating the Journal and the annual meetings, but some members have informally proposed reasonable projects to me that are manageable and are worthy of serious consideration by the Association's officers. Members are encouraged to take advantage of this rare opportunity to discuss in writing or by telephone their thoughts in this regard. Lowell Bethel of The University of Texas at Austin is chairing this committee.

Updating our mission statement is occupying the attention of the board which needs some additional input from the membership. The board is working with two excellent position papers written by Andy Anderson of the Michigan State University and Emmitt Wright of the Kansas State University but also requests *any* NARST members to submit by October 5, 1989, goal statements of varying length and scope to the **NARST committee on updating our mission statement** for consideration at our upcoming Fall board meeting. Don McCurdy of the University of Nebraska-Lincoln is chairing this committee. Members are encouraged to contribute their counsel to the committee in writing or by telephone. All submissions (partial and comprehensive goal statements) are scheduled for open consideration by the entire board (See Future Directions for NARST). We need your input on this important topic—input from the grass-roots level. Too often, members' recommendations are lost in the shuffle of routine business matters.

Glenn Markle, our current secretary, continues to do an excellent job, but his term is about over. Help our **NARST Search Committee: Executive Secretary** seek applicants, as detailed in my other article appearing in this issue of the newsletter. Help us identify and encourage competent members to apply.

## DO YOU HAVE AN IDEA? Member Initiated Projects

Present your ideas to facilitate our association's goal to improve science teaching through research. Proposals will be considered at the November board meeting.

Contact Bill Holliday, President, or Lowell Bethel, Special Projects Committee Chair.

## Proposals, *continued*

ments of design or approach to be presented once rather than repetitiously. A discussant may be assigned to the session if one is not identified in the proposal. Presenters must provide the discussant with a copy of the research papers before the annual meeting, and are encouraged to distribute copies of the papers at the session. A *Paper Set Proposal should include*: 1) an abstract, and 2) a three to six page, double spaced, synopsis (objectives or purpose of the study, significance, design and procedures, findings or results, and conclusions) with bibliography (not counted into the six pages) *for each paper* proposed for presentation. The materials should be stapled together as a unit in the upper left corner.

3. **Poster Sessions:** Poster sessions are designed to enable researchers to share information on research *that may be in progress*. Poster sessions combine the graphic display of materials with an opportunity for individualized, informal discussions of the research. Authors are encouraged to bring copies of a paper for distribution to interested participants. A *Poster Session Proposal should include*: 1) an abstract, and 2) a three to six page, double spaced, synopsis of the research to date (e.g., objective or purpose of the study, significance, design and procedures, findings or results, and conclusions) with bibliography (not counted into the six pages). The materials should be stapled together in the upper left corner.
4. **Panels:** Panels are constituted to provide a mechanism for debating or discussing serious issues in science education. Each panel has a moderator, who may or may not have organized the panel, but who is expected to regulate the flow of discussion or debate. Panel members must provide the moderator with a copy of the paper in which their views on the issue are presented in a scholarly manner and are encouraged to distribute copies of their papers at the session. A *Panel Proposal should include*: 1) an abstract, and 2) a double spaced, Introduction which describes the issue focus of the panel, the research interests of panel members, and their varied backgrounds, *without naming the individuals* (maximum of two pages), and 3) a three to six page, double spaced, synopsis with bibliography (not counted into the six pages) *of each paper* proposed for presentation in the panel. These materials should be stapled together as a unit in the upper left corner.
5. **Symposia:** Symposia should promote discussion of current or needed research. Following a brief presentation by each member of the symposium, interaction among presenters and the audience is expected. A *symposium proposal should include*: 1) an abstract, and 2) a double spaced, Introduction which describes the research focus of the symposium, the research interests and professional back-

grounds of symposium members *without naming the individuals* (maximum of two pages), and 3) a three to six page, double spaced, synopsis with bibliography (not counted into the six pages) of each paper proposed for presentation by a symposium member. This should be stapled together as a unit in the upper left corner.

6. **Round Table Discussions:** Round Table Discussions are used to provide a thorough analysis of one or more papers by a group of researchers. Presenters have an hour in which various aspects of the study are examined by others, the round table panel, in a discussion format. The researcher must provide round table panel members with a copy of the paper at least *two months* prior to the annual meeting. In addition, they are expected to bring materials such as protocols, instruments, computer printouts, experimental curriculum materials, and logs to aid in the discussion. *A Round Table Proposal should include:* 1) an abstract, 2) a three to six page, double spaced synopsis (objectives or purpose of the study, significance, design and procedures, findings or results, and conclusions) with bibliography (not counted into the six pages) of the research paper to be discussed, and 3) a description of each round table member, including their varied backgrounds, and respective research expertise, *without naming the individuals* (maximum of two pages). These materials should be stapled together as a unit in the upper left corner.

All proposals will be reviewed anonymously by the members of the Program Committee. The following criteria will be applied during the proposal reviews.

Significance of the program and conclusion for the advancement of research in science education as evidenced by the link to or departure from previously published research theories, methods, or conclusions.

Clarity of expression.

Appropriateness of the procedures and conclusions, given the stated purpose and results.

Adherence to the proposal preparation criteria presented herein, *including the deadline*.

Please note that contributed papers, paper sets and round tables are designed to allow researchers to report on research projects which have been completed prior to the proposal submission deadline. The Program Committee wishes to accommodate as many papers as possible and asks for cooperation from proposers if some proposals are moved from one category to another.

An individual may present in only one contributed paper or paper session at the Annual Meeting but may be listed as a co-author on other papers and may participate in a symposium, round table, seminar/workshop as well as serve as a presider or a discussant.

Presenters are strongly encouraged to stimulate discussion around their presentations. Overhead projectors and screens will be provided. Participants needing other equipment are expected to provide that equipment. All presenters *must register* at the NARST meeting.

### PROPOSAL SUBMISSION

Persons wishing to submit proposals need to send:

1. Two (2) copies of the completed cover page (provided at the back of the newsletter).
2. Six (6) copies of the proposal *as described under the respective concurrent session type* above. Please omit the name(s) and identifying information about the proposer and other session participants.
3. Two (2) *additional copies* of an abstract of more than 500 words for *concurrent sessions* and all *symposia*. The abstracts of accepted sessions and symposia will be published in the collection of NARST abstracts, so form and accuracy are important. Please omit author name(s) and other identifying information.
4. Two (2) self-addressed, stamped, envelopes which will be used to acknowledge receipt of the proposal and the Program Committee's final decision.
5. Two (2) 3x5 inch typed cards containing name, address, and telephone (Fax and Bitnet, if possible) numbers of the individual proposing the concurrent session as well as the title of the session.

Send this material to: Jane Butler Kahle, Chair; NARST Program Committee, 221 WTHR Building, Purdue University, West Lafayette, IN 47907, (317) 494-8518.

**DEADLINE: MATERIALS MUST BE POSTMARKED NO LATER THAN OCTOBER 1, 1989**

---

## ICASE Europe Research Seminar 1990

An ICASE Research Seminar on "Empirical Research in Science and Mathematics Education" will be held on June 6 - 8, 1990, at the University of Dortmund, FRG. The aim of this conference is to discuss the methodology of empirical research in this field. Approximately twelve 40 minute papers will be presented followed each by another 40 minute discussion period. The language of the seminar will be English.

There will be no seminar fee. Everyone will need to cover their own expenses. The papers of the seminar will be printed as Proceedings through ICASE. The presenters will be asked to send their individual paper beforehand ready for print.

Papers should be submitted as soon as possible. Please send a title and abstract (one page with reference list included) to Prof. Dr. Hans-Jürgen Schmidt, University of Dortmund/Dept. of Chemistry, Otto-Hahn-Strasse, D-4600 Dortmund 50, Federal Republic of Germany. *Deadline: Materials must be postmarked no later than December 1, 1989.*

---

## NARST Award for Distinguished Contributions to Science Education Research

The National Association for Research in Science Teaching seeks to improve Science Education through research. To this end the Association desires to recognize individuals who have made significant contributions to Science Education through research. Contributions may be of several types, including but not limited to empirical, philosophical or historical research, evaluative studies, policy-related research and studies reflecting new techniques to be applied in research. To be considered for this award an individual should have contributed over a period of at least 15 years and should be at the pinnacle of his or her career.

The award will be made to an individual who has over a period of 15 or more years: 1) made a continuing contribution to Science Education through research; 2) provided notable leadership in Science Education through research; and 3) had a substantial impact on Science Education through research.

This award is intended to be the highest recognition NARST can bestow for contributions to Science Education through research. The award will be bestowed only when a superior candidate has been identified by the awards committee.

To apply, a nominator or candidate should submit 10 copies of the following:

1. a cover letter, not to exceed 5 pages in length, describing the nature of the contributions of the individual, including specific documentation as to why these contributions are considered outstanding and substantive;
2. up to five letters of support, each not to exceed two pages in length, which provide evidence of extraordinary contributions of the individual; and
3. a curriculum vita including a complete list of publications and accomplishments.

Dr. Ann C. Howe, Chairperson, NARST Awards Committee, Department of Mathematics and Science Education, Box No. 7801, North Carolina State University, Raleigh, N.C. 27695-7801

**Deadline, January 15, 1990**

---

## Submissions Invited —

### 1989 NARST Outstanding Paper Award 1989 NARST Practical Application Award

Each year at the annual meeting of the Association the NARST Awards Committee identifies persons to be recognized by the organization whose papers, presented at the meeting of the preceding year, are judged to be outstanding in one of each of two areas:

#### **Contributions to science education research and Practical applications of research to classroom practice.**

The NARST Awards Committee invites all persons who presented papers at the 1989 meeting in San Francisco, CA to submit copies of the complete paper and abstract for consideration for the Outstanding Paper Award or for the Practical Application Award. These awards will be presented at the next NARST meeting in San Francisco.

The papers in each category will be judged on (1) significance of the problem investigated, (2) conceptual background, (3) research approach, (4) methodology, (5) significance of outcomes, (6) conclusions, (7) communication of information, and (8) overall uniqueness. Additionally, the papers submitted for the Practical Applications Award will be judged on (9) evidence of practical applications for practitioners.

Please send, **by September 15, 1989**, the eight (8) copies of your paper and abstract (a copy of the abstract needs to accompany each copy of the paper), a cover sheet of information including:

Name, Address with zip code, Telephone numbers, Request for review for the Outstanding Paper Award or Practical Application Award and a self-addressed post card (which will be returned to you upon receipt of your materials) to:

Fred N. Finley, 370 Peik Hall, 159 Pillsbury Drive, S.E., University of Minnesota, Minneapolis, MN 55455.

---

## Proceedings Now Available

A seminar on Adolescent Development and School Science was held at Kings College London Centre for Educational Studies in September 1987. A select group of researchers from Europe, the United States, and beyond examined the impact of cognitive and social development on the teaching of science. Ways in which the science curriculum could be a context in which adolescents' development could be positively influenced were explored. The proceedings of the seminar are now available, and published by Falmer Press<sup>1</sup>.

1. *Adolescent Development and School Science*. Edited by Philip Adey, Joan Bliss, John Head, and Michael Shayer. Falmer Press, Rankine Road, Basingstoke, England. ISBN 1 85000 428 5 (cloth) 429 3 (paper).

---

# NARST

---

---

## LEADERSHIP DIRECTORY

### National Association for Research in Science Teaching

1989-1990

---

---

## CALENDAR

---

NARST News	June 1, 1989
First Call for Proposals for 1989	June 1, 1989
NARST Annual Meeting	
NARST News Submission Deadline	August 1, 1989
NARST News	September 1, 1989
Second Call for Proposals for 1989	September 1, 1989
NARST Annual Meeting	
Deadline: Submission for	September 15, 1989
Outstanding Paper and Practical	
Application Paper Awards	
Deadline: Proposals for 1989	October 1, 1989
NARST Annual Meeting	
Fall Board Meeting (Atlanta)	November 17, 18, 1989
NARST News Submission Deadline	November 1, 1989
NARST News	December 1, 1989
Payment of 1989 Dues	January 1, 1990
Deadline: Nominations for	January 15, 1990
Distinguished Contributions to	
Science Education Research	
Award	
Elections Ballots Distributed	January 8, 1990
Return of Ballots	February 9, 1990
NARST News Submission Deadline	February 1, 1990
NARST News	March 1, 1990
Deadline: Pre-Registration for	March 15, 1990
NARST Annual Meeting	
AERA Annual Meeting (Boston)	March 16-20, 1990
NSTA Convention (Atlanta)	April 5-8, 1990
NARST Annual Meeting (Atlanta)	April 7-10, 1990
NARST News Submission Deadline	May 1, 1990

---

### NARST Monographs Available

*A Theory of Instruction: Using the Learning Cycle to Teach Science Concepts and Thinking Skills*, A. Lawson, M. Abraham, and J. Renner, \$6US

*Learning Environment Research in Science Classrooms: Past Progress and Future Prospects*, B. Fraser, \$6US

Send orders with check payable to NARST to Glenn C. Markle, NARST Executive Secretary, College of Education, University of Cincinnati, Cincinnati, OH 45221-0002

# NATIONAL ASSOCIATION for Research in Science Teaching

## Officers and Committee Members for 1989-1990

### President

William G. Holliday  
Curriculum and Instruction  
Benjamin Building  
University of Maryland  
College Park, MD 20742  
(301) 454-7346

### President-Elect

Jane Butler Kahle  
Department of Biological Sciences  
Purdue University  
West Lafayette, IN 47907  
(317) 494-8578

### Immediate Past President

Patricia E. Blosser  
ERIC  
1200 Chambers Road  
The Ohio State University  
Columbus, OH 43212  
(614) 292-6717

### Board Members

Charles Anderson (1990)  
229 Erickson Hall  
Michigan State University  
East Lansing, MI 48824  
(517) 355-1725

Lowell J. Bethel (1991)  
Science Education Center - EDB 340  
The University of Texas at Austin  
Austin, TX 78712  
(512) 471-3488

Fred Finley (1990)  
370 Peik Hall  
University of Minnesota  
Minneapolis, MN 55455  
(612) 625-2074

Donald W. McCurdy (1992)  
211 Henzlik Hall  
University of Nebraska  
Lincoln, NE 68585  
(402) 472-3155

Hans Anderson (1996)  
NSTA  
1742 Connecticut Ave., NW  
Washington, DC 20009  
(202) 812-

Robert Sherwood (1991)  
College Box 4, Peabody College  
Vanderbilt University  
Nashville, TN 37203  
(615) 322-8070

Kenneth G. Tobin (1992)  
Science Education  
Florida State University  
Tallahassee, FL 32306  
(904) 644-2792

### Executive Secretary

Glenn Markle  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-2332

### Editor, Journal of Research in Science Teaching

Russell Yeany  
Department of Science Education  
The University of Georgia  
Athens, GA 30602  
(404) 542-1763

### Editor-Appointed, Journal of Research in Science Teaching

Ronald G. Good  
Department of Curriculum  
and Instruction  
Louisiana State University  
Baton Rouge, LA 70803  
(514) 388-2331

### Editor, NARST News

Thaddeus W. Fowler  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-3583

### Research Coordinator

Frances Lawrenz (1992)  
370 Peik Hall  
University of Minnesota  
Minneapolis, MN 55455  
(612) 625-2046

### NARST Archivist

Paul Joslin  
Drake University  
Des Moines, Iowa 50311  
(515) 271-3991

*Miami University  
Oxford, OH 45056*

*Mc Huffey Hall  
513-529-1686*

*2990 Hammer Rd  
Hamilton OH 45013  
513-887-2364*

---

## Financial Advisory Committee

### Chairman

Robert Sherwood (1991)  
College Box 45, Peabody College  
Nashville, TN 37203  
(615) 322-8070

### Members

Stanley L. Helgeson (1991)  
Educational Studies: Science Education  
The Ohio State University  
Columbus, OH 43210  
(614) 292-5381

Donald W. McCurdy (1992)  
211 Henzlik Hall  
University of Nebraska  
Lincoln, NE 68585  
(402) 472-3155

Michael D. Piburn (1990)  
1253 West Minister Ave.  
Westminister College  
Salt Lake City, UT 84691  
(801) 485-6691

Douglas A. Roberts (1991)  
EDCI, Ed. T 702  
University of Calgary  
Calgary, Alberta  
T2N 1N4 CANADA  
(403) 220-5632

Glenn Markle ex officio  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-2332

### Committee Charge

The Financial Advisory Committee is responsible for considering the annual budget prepared by the Executive Secretary, approve program expenses, approve publication costs and new ventures, offer advice and recommendations to the Executive Board regarding all financial affairs of the Association, and conduct an annual audit of the financial accounts of the Association.

The members include a chairman (three year term) three members (with rotating terms) and the Executive Secretary (ex officio).

---

## Publications Advisory Committee

### Chairman

Kenneth G. Tobin (1990)  
Science Education  
Florida State University  
Tallahassee, Florida 32306

### Members

Herbert K. Brunkhorst (1992)  
School of Education  
California State University  
San Bernadino, CA 92407  
(714) 887-7885

James D. Ellis (1990)  
Biological Sciences Curriculum Study  
Colorado College  
1115 N. Cascade Ave.  
Colorado Springs, CO 80903  
(303) 473-2233

Ronald G. Good (ex officio)  
Department of Curriculum and Instruction  
Louisiana State University  
Baton Rouge, LA 70803  
(504) 388-2331

J. Preston Prather (1991)  
The University of Tennessee at Martin  
Rm. 205H, Gooch Hall  
Martin, TN 38238  
(901) 587-7166

### Committee Charge

The Publication Advisory Committee is responsible for establishing policy concerning the newsletter, the journal, and special publication ventures of the Association; reviewing arrangements with editors of publications; and suggesting changes in yearly publication practices of the Executive Board.

The members include a chairman (three year term), three members (with rotating terms), and the Editor, (ex officio).

---

## Policy Advisory Committee

### Chairman

Patricia E. Blosser (1989)  
ERIC  
1200 Chambers Road  
The Ohio State University  
Columbus, OH 43210  
(614) 292-6717

### Members

William G. Holliday  
Curriculum and Instruction  
Benjamin Building  
University of Maryland  
College Park, MD 20742  
(301) 454-7346

Dr. John J. Koran, Jr. (1991)  
Associate Dean  
Graduate School  
University of Florida  
Gainesville, FL 32601  
(904) 392-4646

John R. Staver (1990)  
School of Education  
University of Illinois at Chicago  
Chicago, IL 60655  
(312) 996-5630

Glenn Markle ex officio  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-2332

### Committee Charge

The Policy Advisory Committee is responsible for annually reviewing the Bylaws, changes in structure or orientation of the Association, and reviewing new activities or ventures of the association.

---

## Research Committee

### Chairman

Frances Lawrenz (1992)  
159 Pillsbury Dr., S E  
University of Minnesota  
Minneapolis, MN 55455  
(612) 625-2046

### Members

Joseph S. Krajcik (1991)  
Benjamin Building  
University of Maryland  
College Park, MD 20742  
(202) 454-5590

William C. Kyle, Jr. (1989)  
College of Education  
Purdue University  
West Lafayette, Ind 47907  
(203) 429-7774

William Leonard (1990)  
College of Education  
Clemson University  
Clemson, SC 29634  
(803) 656-5129

J. Steve Oliver (1990)  
College of Education  
Bluemont Hall  
Kansas State University  
Manhattan, KS 66506  
(913) 532-5550

David R. Sronck  
School of Education  
California State University-Hayward  
Hayward, CA 94542

Glenn Markle (ex officio)  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-2332

#### **Committee Charge**

The Research Committee is responsible for preparing yearly reviews of research in science education, working closely with the ERIC Center and recommending needed areas of research, research symposia, and training programs.

The membership of this committee consists of the chairmen and three members with two year rotating terms. The Executive Secretary is an ex officio member of the committee.

---

### **Election Committee**

#### **Chairman**

Patricia E. Blosser  
ERIC  
1200 Chambers Road  
The Ohio State University  
Columbus, OH 43212  
(614) 292-6717

#### **Members**

Marcia C. Linn  
Tolman Hall  
University of California  
Berkeley, CA 94720  
(415) 643-6379

James A. Shymansky  
450 Van Allen Bldg.  
University of Iowa  
Iowa City, Iowa 52242  
(319) 353-1167

#### **Committee Charge**

The Nominating Committee is responsible for establishing the slate of officers for each election four months prior to the date of the Annual Meeting, making arrangements for preparation and distribution of ballots three months prior to

the date of the Annual Meeting, tabulating election results, notifying candidates of the outcome of the election a month prior to their assuming office, announcing election results at the Annual Meeting, and arranging for installation of new officers and transfer of responsibilities of the Executive Board for the Association.

The members of this committee shall consist of the immediate Past President as chairman and two members with one year terms.

---

### **Program Committee**

#### **Chairman**

Jane Butler Kahle  
Biological Sciences  
Purdue University  
West Lafayette, IN 47907  
(317) 494-8578

#### **Members**

Peter W. Hewson (1992)  
University of Wisconsin  
225 N. Mills St.  
Madison, WI 53706  
(608) 263-4639

Willis J. Horak (1990)  
University of Arizona  
1765 West Niona Place  
Tucson, AZ 85704  
(602) 621-1286

Peter A. Rubba (1990)  
CE-STS, 165 Chambers Bldg.  
Pennsylvania State University  
University Park, PA 16802  
(814) 865-2161

Richard Tolman (1990)  
Zoology Department  
Brigham Young University  
Provo, UT 84602  
(801) 378-3963

Victor L. Willson (1992)  
Educational Psychology  
Texas A&M University  
College Station, TX 77840  
(409) 845-1808

Frances Lawrenz (ex officio)  
159 Pillsbury Dr., S E  
University of Minnesota  
Minneapolis, MN 55455  
(612) 625-2046

Glenn Markle ex officio  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-2332

#### **Committee Charge**

The Program Committee is responsible for establishing the theme and format for the Annual Meeting, arranging for special speakers and symposia, and evaluating abstracts for contributed papers, and the evaluation of the Annual Meeting. Additionally, a Local Arrangements Committee may be established.

The membership of this committee consists of the President-Elect as chairman, six members on two year rotating terms and as ex-officio members, the Research Coordinator and the Executive Secretary.

---

### **Distinguished Contribution Award Committee**

#### **Chairman**

Ann C. Howe (1990)  
Math & Science Education  
Box 7801  
N. Carolina State University  
Raleigh, NC 27695-7801  
(919) 737-2238

#### **Members**

Michael R. Abraham (1991)  
University of Oklahoma  
Norman, OK 73019  
(405) 325-4981

Marianne B. Betkouski (1990)  
Education/Curriculum & Instruction  
University of North Florida  
Jacksonville, FL 32216  
(904) 646-2578

Jane Butler Kahle (1990)  
Purdue University  
West Lafayette, IN 47907  
(317) 494-8578

Anton E. Lawson (1990)  
Department of Zoology  
Arizona State University  
Tempe, AZ 85287  
(602) 965-2540

Kathleen A. O'Sullivan (1992)  
Department of Secondary Education  
San Francisco State University  
1600 Holloway Ave.  
San Francisco, CA 94132

Donald E. Riechard (1991)  
Educational Studies  
Emory University  
Atlanta, GA 30322  
(404) 727-6468

Glenn Markle (ex officio)  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-2332

Edmund A. Marek (1990)  
Room 323 Physical Science Bldg.  
University of Oklahoma  
Norman, OK 73019  
(405) 325-1498

Linda L. Cronin (1990)  
Science Education  
Norman Hall  
University of Florida  
Gainesville, FL 32611  
(904) 392-0761

---

## Representative to the American Association for the Advancement of Science

J. Nathan Swift  
Education, Poucher Hall  
SUNY-Oswego  
Oswego, NY 13126  
(315) 341-4024

John C. Park (1991)  
Mathematics and Science Education  
Campus Box 7801, NCU  
Raleigh, NC 27695

Joseph P. Riley (1990)  
212 Aderhold Hall  
University of Georgia  
Athens, GA 30602  
(404) 542-1763

Julie P. Sanford (1990)  
University of Texas  
Assoc. Dir. of Research Sponsored  
Projects Office  
El Paso, TX 79968-0566

Michael A. Dryden (1990)  
Department of Physics  
Arizona State University  
Tempe, AZ 85287  
(602) 965-4364

Larry G. Enoch  
College of Education  
Kansas State University  
Manhattan, KA 66502  
(913) 532-5797

David Harmon (1991)  
RESA IV  
300 Main St.  
Summerville, WM 26651  
(304) 872-6440

---

## JRST Awards Committee

### Chairman

Lowell J. Bethel (1991)  
Science Ed Center - EDB 340  
The University of Texas at Austin  
Austin, TX 78712  
(512) 471-3488

Kenneth G. Tobin (1990)  
Science Education  
Florida State University  
Tallahassee, FA 32306

Kevin C. Wise (1990)  
Curriculum and Instruction  
Southern Illinois  
Carbondale, IL 62901  
(618) 536-2441

David L. Haury (1990)  
Department of Education  
Tufts University  
Medford, MA 02155  
(617) 381-3244

Joseph S. Krajcik (1990)  
College of Education  
The University of Maryland  
College Park, MD 20742  
(202) 454-5590

### Members

Ron Bonnstetter (1989)  
211 Henzlik Hall  
University of Nebraska  
Lincoln, NE 68588-0355  
(402) 472-2443

Angelo Collins (1991)  
CERAS 507  
Stanford University  
Stanford, CA 94305  
(415) 723-5740

Frank E. Crawley (1992)  
Science Education Center EDB 340  
The University of Texas at Austin  
Austin, TX 78712  
(512) 471-7354

James J. Gallagher (1990)  
327 Erickson Hall  
Michigan State University  
East Lansing, MI 48824  
(517) 355-1725

Francis Lawrenz (1990)  
Department of Curriculum & Instruction  
159 Pillsbury Dr., SE  
University of Minnesota  
Minneapolis, MN 55455  
(612) 625-2046

Alan J. McCormack (1992)  
Science Education  
San Diego State University  
San Diego, CA 92182  
(619) 265-6123

---

## NARST Awards Committee

### Chairman

Fred Finley (1990)  
159 Pillsbury Dr., SE  
University of Minnesota  
Minneapolis, MN 55455  
(612) 625-2074

### Members

Mary Atwater (1992)  
Department of Science Education  
University of Georgia  
Athens, GA 30602  
(404) 542-1763

Heather Brasell (1991)  
P.O. Box 6A  
Alapaha, GA 321622

Eugene L. Chiapetta (1990)  
Education  
University of Houston  
Houston, TX 77004  
(713) 749-1685

Sandra Y. McGuire (1991)  
Alabama A & M  
6506 Green Meadow Rd.  
Huntsville, AL 35810  
(205) 859-7328

Michael D. Piburn (1990)  
1253 West Minister Ave.  
Westminister College  
Salt Lake City, UT 84691  
(801) 485-6691

Larry Yore (1991)  
University of Victoria  
P.O. Box 1700  
Victoria, BC, V8N 2Y2  
CANADA  
(604) 721-7766

---

## Ad Hoc Committee on International Issues

### Chairman

Pamela Fraser-Abder (1989)  
Faculty of Education  
University of the West Indies  
St. Augustine, Trinidad, West Indies  
(814) 66-31364

### Members

Glen Aikenhead (1989)  
Faculty of Education  
University of Saskatchewan  
Saskatoon, Saskatchewan, Canada  
S7N 0W0  
(306) 343-3892

Nancy Brickhouse  
College of Education  
University of Delaware  
Newark, Del 19711  
(317) 494-1602

Barry J. Fraser  
College of Education  
Curtin University  
Bentley, W.A. 6102  
Australia  
09-350-7975

James J. Gallagher  
327 Erickson Hall  
Michigan State University  
East Lansing, MI 48824  
(517) 355-1725

Geoff Giddins  
Curtin University  
Box 41987  
Perth 6001, West Australia  
09-351-2192

J. W. George Ivany  
Vice President, Academic Affairs  
Symon Fraser University  
Burnaby, B.C. V5A1S6  
Canada  
(604) 291-4636

Michael Jay  
Apple Computer, Inc.  
20525 Mariani Ave.  
Cupertino, CA 95014

Paul A. Kirschner  
Box 2960  
6401 LD Heerleen  
The Netherlands

Patricia Simmons  
Department of Science Education  
University of Georgia  
Athens, GA 30602  
(404) 542-1763

David Treagust  
Science and Mathematics Education  
Curtin University of Technology  
Bentley, W.A. 6102  
Australia  
09-350-7896

---

## NARST Search Committee: Executive Secretary (Special Ad Hoc)

Robert Sherwood (Chair)  
Box 45, Peabody College  
Vanderbilt University  
Nashville, TN 37203  
(615) 322-8070

Dale Baker  
133 MBH  
University of Utah  
Salt Lake City, UT 84112  
(801) 581-7158

James Barufaldi  
Science Education Center - EDB 340  
The University of Texas at Austin  
Austin, TX 78712  
(512) 471-7354

Emmett Wright  
Department of Education  
Kansas State University  
Manhattan, KA 66502  
(913) 532-5550

---

## NARST Committee on Updating Our Mission Statement Committee (Special Ad Hoc)

Donald W. McCurdy (Chair)  
211 Henzlik Hall  
University of Nebraska  
Lincoln, NE 68588  
(402) 472-3155

Charles Anderson  
229 Erickson Hall  
Michigan State University  
East Lansing, MI 48824  
(517) 355-1725

Julia Clark  
Curriculum & Instruction  
Texas A&M University  
College Station, TX 77843  
(409) 845-8051

Peter Hewson  
Dept. of Curriculum & Instruction  
University of Wisconsin  
Madison, WI 53706  
(608) 263-4639

Emmett Wright  
Department of Science Education  
Kansas State University  
Manhatta, KS 66502  
(913) 532-5550

---

## NARST Committee on Special Membership Projects (Special Ad Hoc)

Lowell J. Bethel (Chair)  
Science Education Center - EDB 346  
The University of Texas at Austin  
Austin, TX 78712  
(512) 471-7354

Thaddeus W. Fowler  
College of Education  
University of Cincinnati  
Cincinnati, OH 45221-0002  
(513) 556-3583

Robert Hollon  
Department of Curriculum & Instruction  
University of Wisconsin - Madison  
Madison, Wisconsin 53706  
(518) 442-5037

---

## Representative to the Triangle Coalition

### Chairman

Robert W. Howe  
Science and Mathematics Education  
The Ohio State University  
Columbus, OH 43210-1172  
(614) 292-6717

### Members

David R. Stronck  
Dept. of Teacher Education  
California State University  
Hayward, CA 94542  
(415) 881-3027

Sarah L. Ulerick  
Science Education  
414 Education Building  
Tallahassee, FL 32306  
(904) 644-2792

---

## Representative to the International Council of Associations for Science Education (ICASE)

David P. Butts  
Department of Science  
University of Georgia  
Athens, GA 30602  
(404) 542-1763

---

## Future Directions for NARST

by Patricia E. Blosser

NARST members attending the annual convention in San Francisco this past March were provided with the major points of two draft papers prepared to provide some direction for the organization's future activities. These papers are still in their formative stages and feedback from members is welcomed. The papers are presented here so that NARST members can have the opportunity to read the drafts in their entirety and can provide written feedback to each of the primary authors. The paper entitled "Statement of Purpose . . ." has been developed by Emmett Wright, Kansas State University. The second paper, as yet untitled, has been written by Charles Anderson, Michigan State University. Either or both of these authors would welcome ideas and suggestions from NARST members as soon as possible so that revisions can be made before further discussion takes place at the fall meeting of the NARST board of directors. The importance of this task is underscored in the President's column.

### Draft Statement of Purpose for the National Association for Research in Science Teaching Setting Direction for the 1990's

The National Association for Research in Science Teaching (NARST) is a major international professional society promoting an articulation between research and its dissemination to the practitioner for the improvement of science teaching. The association, because of this leadership role, must take a proactive stance that both reflects the science education profession and enhances the general community of education professionals. NARST should provide recommendations that specifically influence the development of public educational policy at the international, national, state, and local levels, as it affects the promotion of quality science teaching. The future direction of NARST is prioritized on the following purposes:

1. Provide leadership in promoting the use of an established scientific basis to improve science teaching at the local, state, national and international levels.
2. Develop an agenda for basic and applied research in science education.
3. Translate, codify, synthesize and disseminate the findings of science education research in a manner that such findings have direct implications and are useful for both researchers and the classroom practitioner.
4. Develop and evaluate mechanisms for disseminating and implementing the ap-

plications of basic research to science teaching.

5. Enhance the quality of science teaching worldwide particularly as it relates to Global Issues.
6. Define the role of NARST in conjunction with and as distinct from other professional organizations concerned with science education.

### Promoting Quality Science Teaching

The membership of NARST represents the scholarly leadership of the science teaching profession. In the past NARST depended on individual members and other organizations to serve as spokespersons for the profession. NARST must become more proactive and systematically represent an organizational view to various public and professional audiences on issues affecting the quality and quantity of science teaching. For example, specific research-based rationales need to be formulated to support defensible positions for:

1. the necessity for the laboratory;
2. the sequence and number of secondary science courses offered;
3. the provision of systematic and hands-on science instruction in the elementary schools;
4. the development of appropriate science education in middle school.
5. the applicability of technology oriented science programs.
6. the need for research-based college level science courses for general education and teacher preparation students;
7. the intent, contents and quality of science textbooks and references;
8. nationally recognized certification requirements;
9. the financing of preservice and inservice education of science teachers; and,
10. the support for basic research in science teaching.

The leadership of NARST, and when appropriate the membership, needs to be sensitized to share these positions in various forums such as (1) written testimony before a legislative committee, a school board, a commission; (2) an editorial or letter to the editor in print and non-print media.

### Enhancing Basic and Applied Science Education Research

The scientific professions have developed codifications of knowledge claims and a clear definition of research goals and priorities. The National Institute of Health is an example of a federal agency that provides a well articulated national agenda for the funding of research in the medical sciences. Professional societies and the medical profession have a major input into agenda. A corollary for NARST is the need to take leadership in codifying knowledge claims in science teaching and defining clearly a basic research agenda that will augment and enhance basic un-

derstandings about how science is learned and used by students of different ages and in various science disciplines.

In addition to maintaining a quality research journal there is a real need to support a continuous effort to develop for researchers and science teachers an annual synthesis of science education research. This could appear as a review published in JRST or as a separate publication. The review should be organized on the codified knowledge claims of the discipline.

### Applying Research Findings to Science Teaching

The education enterprise is faced with the lack of strong, focused leadership from within the profession, resulting in general discontent from the public and political decision-makers. What, when and how science is taught are challenges facing professional science educators. Various studies have illustrated that the status quo in science teaching is unimaginative, out-of-date, and generally not addressing the needs of students for the 21st century. Findings from basic and applied science education research are not being translated and integrated into good classroom practices. The science education research focused journals provide no relief for the already inundated science teacher. NARST needs to focus on cooperative efforts with federal and state agencies, and professional societies (including scientific and educational) to develop strategies to translate into a useable form research-tested information about teaching strategies, curriculum innovations, evaluation, and the use of contemporary instructional technologies (including various technologies such as interactive computer systems).

### Dissemination of Basic and Applied Research

In addition to supporting a wide distribution of research findings through "Research Matters" and other publications, NARST needs to become proactive in supporting systematic staff development models. It is time to bury the one- or two-day workshops for teachers about new curriculum and workable ideas for science education. Such workshops have never had significant impact on adoption or implementation. Few teachers possess the undergirding understanding to implement innovations. They need support and continuing coaching, not only from the local administrators and supervisors, but also from the science education professionals. NARST must become a leader in assisting the science teaching profession to develop research-based strategies to provide systematic staff development for the teaching corps in the promising research findings and to provide encouragement and support for science teachers to become active science education researchers. In addition, NARST needs to influence the development of public policy that insures continuous funding for inser-

vice activities.

In most professions, the practicing professional, in the clinical sense, is also an active contributor to the knowledge base. Law and medicine are examples. Science education should follow this pattern, and NARST should become a leader in supporting and promoting the concept of "every teacher is a researcher."

### Promoting Global Education

The world has, is, and will continue to experience stress. Various ecological, social and political disasters are having profound impacts on the quality of life. Education, the great equalizer, is one of the hopes for the future. NARST needs to become more active in promoting the development of quality science curriculum and the education of science teachers in the third world. This recommendation includes providing a forum for the discussion of issues related to the teaching of science in developing countries.

*Draft Prepared by Emmett L. Wright*

### First Draft of NARST Position Paper

The National Association for Research in Science Teaching is dedicated to the improvement of science teaching through research. We feel that it is necessary to begin with a frank admission: We can see little evidence that during the 61 years of its existence either NARST or any other organization has made much progress toward achieving that purpose.

Surveys and observations of science teaching practice, for example, show little evidence of changes in practice over the last 25 years and little evidence that most science teachers have been influenced by, or even know about, educational research. Science teaching has been and continues to be dominated by text-driven teaching that typically promotes the memorization of facts and algorithms.

The failure of research to influence policy would not be problematic if our present teaching practices were working. However, a large and growing body of evidence indicates that they are not. Large scale assessment efforts such as those of the National Assessment of Educational Progress and a multitude of smaller studies all point to the same conclusion: Most students do not understand what they are taught in science classes; they do not even succeed in memorizing and retaining the facts and algorithms that are the focus of most science instruction.

It is true that the research community has failed to develop research findings or conceptual tools that were useful and powerful enough to influence teaching practice. But like medical research in the nineteenth century, science education research today is developing theories and research results that have the power to serve as a professional knowledge base that can be used to make significant improvements in teaching practice. For example, the last decade has seen an explosion in our re-

search-based knowledge of how children learn science, and numerous projects have shown that this new knowledge can be used to improve classroom science teaching.

We therefore believe that the time has come for us, as members of NARST to assert the importance to the developing professional knowledge base in science education and to fight for the adoption of policies that encourages its use and support its further development. Specific activities that could be undertaken by NARST members or by NARST as an organization in support of this goal include the following:

1. **Working with professional science teachers' organizations.** Work to help the leadership and the members of the National Science Teachers' Association and its local affiliates understand the essential role that research-based knowledge must play in the improvement of science teacher education and in the enhancement of science teachers' professional status. Encourage the adoption of policies that lead to more rigor and the inclusion of more research-based knowledge in practitioners' publications and teacher education efforts.
2. **Working with the National Science Foundation.** Encourage the re-evaluation of policies that tend to separate research, materials, development, and teacher education, and the development of policies that help NSF-supported development and teacher education projects to draw upon, and contribute to, the professional knowledge base. For example, such policies could include giving preference in funding to development and teacher education projects that have the following characteristics: (a) explicit and extensive use of research-based knowledge in planning and execution, (b) the inclusion of research components that contribute to the development of the knowledge base, and (c) skeptical and thorough evaluation of project results by means that themselves make use of and contribute to research-based knowledge.
3. **Improving teacher education.** Encourage the development and use of methods and materials for including research-based knowledge in preservice and in-service teacher education programs. To do this in a meaningful way will probably require that teacher education programs be made longer and more rigorous, as recommended by such organizations as the Holmes Group, the Carnegie Task Force for the Improvement of Teaching, and others concerned with the reform of teacher education and the development of professionalism in teaching.
4. **Improving teacher and student assessment.** Support the development of systems for teacher and student assessment that make use of research-based knowledge about teaching and

learning and that encourage science teachers to do the same.

5. **Improving teaching materials.** Educate the publishers of textbooks and other teaching materials about the extent to which their products currently fail to meet students' needs. Encourage them to make greater use of research-based knowledge to improve the effectiveness of their products. Such efforts require us to influence textbook selection committees and their constituents.

All of the above suggestions involve changes in the policies and practices of large and complex organizations, many of whose members have reason to be skeptical about the usefulness of science education research. Therefore these changes will not come quickly or easily. They can occur, however, if NARST members, who have many contacts with all of these organizations, argue forcefully for the importance of research-based knowledge and show that their arguments are correct. Perhaps the best way to start this long and complicated change process is with ourselves. We can, as members of NARST, consider ways in which we should use and contribute to research-based knowledge in the course of our own activities in teacher education, in service, and in policy making.

*Draft prepared by Andy Anderson*

## 1989 Presidential Address

Patricia E. Blosser  
**NARST, Setting the Direction for the 1990's**

This past November, the fall meeting of the NARST executive board was followed by a day of discussion of issues that NARST should be dealing with if it is to fulfill its purpose of improving science teaching through research. As a result of this discussion, two papers were prepared for review and examination at the spring board meeting on Thursday, March 30. My purpose today, in this talk, is to provide the general membership with an advance organizer for these papers. I will try to present the highlights of each paper, as modified by Board discussion. Then I'd like to raise a few questions and, perhaps, issue a challenge.

One paper was written to emphasize actions NARST should take in dealing with policy makers at national, state, and local levels. Because NARST is an international organization in terms of membership, that level has also been included.

Let me talk in a little detail about each of the five proposals for action identified in the paper. First, it calls for NARST to present an organizational view on issues affecting the quality and quantity of science teaching. In my opinion, this is a new role for NARST. There is much diversity of membership with NARST and this is also

reflected in the research interests of NARST members as papers are presented at the national meeting or published in the Journal. If this proposal for action were followed, there would be a "NARST position" that would be reflected when NARST members testified to legislative committees, worked with school boards or curriculum committees, or were quoted in print and non-print media.

Second, NARST is called upon to codify knowledge claims in science teaching and to clearly define a basic research agenda involving how science is learned and used by students of different ages and in various science disciplines. If one examines this proposal for action, it involves the development of the codification scheme which may prove to be a complex task. Related to this proposal is the call for the production of an annual synthesis of research in science education, to be published in JRST or as a separate publication. At present we have an annual review of research — which is more a descriptive than a synthetic product. However, to produce a synthesis involves reading and analyzing the research. Should NARST substitute the synthesis for the annual review? Who will be willing to undertake the task?

Third, NARST is called on to focus on cooperative efforts with federal and state agencies and professional societies (scientific and educational) to develop strategies that translate into useable form research-tested information about teaching strategies, curriculum innovations, evaluation, and the use of contemporary instructional technologies.

Fourth, NARST is urged to become a leader in assisting the science teaching profession to develop research-based strategies to provide systematic staff development for teachers, and to influence the development of public policy to insure continuous funding for inservice activities. In addition, NARST is urged to continue providing leadership in supporting and promoting the concept of "every teacher a researcher."

Fifth, NARST should become more active in promoting the development of quality science curriculum and science teacher education in the Third World. This includes providing a forum for discussion of issues related to the teaching of science in developing countries.

The second paper begins with the gloomy premise that, after 61 years of NARST activity, there is little, if any, evidence that science teaching has been improved through research. However, science education research today is developing theories and research results with the power to serve as a professional knowledge base that can be used to make significant improvements in teaching practice. Therefore, NARST members or NARST as an organization should undertake such activities as the following five:

One, work with professional science teachers' organizations to understand the essential role that research-based knowledge must play in the improvement of science teacher education and in the enhancement of science teachers' professional status.

Two, work with the National Science Foundation to bring about the re-evaluation of policies that tend to separate research, materials development, and teacher education. In addition, NARST should assist NSF in developing policies that help NSF-supported development and teacher education projects to draw upon, as well as contribute to, the professional knowledge base.

Three, improve teacher education by encouraging the development and use of methods and materials for including research-based knowledge in preservice and inservice teacher education programs.

Four, improve teacher and student assessment by supporting the development of systems that make use of research-based knowledge about teaching and learning and that encourage science teachers to do the same.

Five, improve teaching materials by educating textbook publishers and publishers of other teaching materials about the extent to which their current products fail to meet students' needs. Again, publishers should be encouraged to make greater use of research-based knowledge to improve their effectiveness of their products. This emphasis also involves NARST members working to influence textbook selection committees.

The time remaining for the Presidential Address at the Awards Luncheon is always short, perhaps mercifully so, but I would like to raise some questions. If it is true that, after 61 years, there is scant evidence that research has improved science teaching — why is this the case? In 1984, the Association for Supervision and Curriculum Development published a book entitled *Using What We Know about Teaching*. Several chapters in this book touch on the question "Why don't teachers use research?" One explanation is that, when teachers have a problem, they turn for help to other teachers who have to deal daily with the reality they face, not the researcher whose time is spent in another environment. Also, teachers tend to consider that research has been oversold. There is a pervasive mistrust of research. Much research on teaching has been of recent development, as the second NARST action paper points out. Many research reports are jargon-laden, pretentious, and unclear. Teachers perceive of much research as being of the "hit and run" variety. Teachers have little to say about the purposes, timing, methods and tests involved in the study. The use of research is discouraging to teachers because of lack of attention to context and

overemphasis on the means instead of emphases on the ends.

Information from science education research needs to be converted into a form which enables teachers to consider alternatives, to make informed professional judgments, and to refine common sense knowledge and implicit theories which guide their actions, to quote from an article by Colin Power published in an issue of *Science Education* in 1984. What have NARST members neglected to do? Why is this a goal that is not well achieved?

In 1961, Teachers College's Bureau of Publications produced a 19 page document, written by Goodwin Watson, entitled "What Psychology Can We Trust?" In his introductory statements, Watson says that the publication came about when he sat down to list some propositions important to education with which he thought few knowledgeable psychologists would disagree. He ended up with 50 such propositions, grouped under 9 major headings.

At the NARST meeting in Washington, DC, at a session on classroom research, I heard one presenter say, during the general discussion, that his experiences in this activity had convinced him that evaluating a student teacher, or any teacher, on the basis of only three or four observations over the course of a semester or quarter was a practice that could not be supported by what he had learned during his investigation. Surely, many NARST members have had similar experiences — they have posed a problem, designed a study, collected and analyzed the data that resulted, and reported their findings. And, in addition to the findings directly related to the research questions, they have acquired other knowledge that can, and should, govern practice.

Last year we formed a number of networking groups — most of which are still functioning. My challenge is that these networking groups develop their own series of propositions important to science education that have relevance for classroom practice, and that we pool these findings from the networking groups in a publication that could be shared with science teachers. One of the shortcomings of Watson's book is that none of his 50 propositions has any research citation(s) to support its validity. We certainly could improve upon that — we could identify the findings and briefly elaborate on each, and we could cite relevant research to support our statements.

#### REFERENCES

- Hosford, P.D., ed. *Using What We Know About Teaching*. Alexandria, VA: Association for Supervision and Curriculum Development, 1984.
- Power, Colin. "Tinker, Tailor, Soldier, Spy — Implications of Science Education Research for Teachers." *Science Education* 68(2): 179-193, 1984.

---

## More Pages Needed in the *Journal*

by Ronald G. Good

For a number of reasons it appears that it will be necessary to increase the number of pages in the *JRST*. The most pressing need is to reduce the time currently needed to process a manuscript into a published article. This was acknowledged by our Editorial Board and Executive Board at our San Francisco meeting. It may require a combination of publishing 2 or 3 special issues this year, in addition to the normal 9 issues, plus increasing the 900 pages per volume to about 1200. Once the time for review-to-publication is reduced to under a year we will have some options for enhancing the *Journal* that are not currently available.

I have asked Rodger Bybee, Tony Lawson, Marcia Linn, Joe Novak, and Jim Shymansky to work with me as Associate Editors to explore ways of developing the 2 or 3 special issues as a means of reducing the backlog of manuscripts, and then concentrate on finding ways of enhancing the *Journal*.

Unless we find a wealthy benefactor to fund the needed changes in the *Journal*, a dues increase (which requires a vote of the membership) will very likely be needed. More will be said of possible changes to the *Journal* and the related dues increase in the next issue of this *Newsletter*. In the meantime, if you have ideas about any of these things let me know by phone (504) 388-2442 or letter: Ron Good, 223-E Peabody, LSU, Baton Rouge, LA 70803.

Also, I want to thank John Staver for agreeing to serve on the Editorial Board of the *JRST*. John's research expertise and experience will be a valuable addition to our Board. I hope more experienced members of NARST, such as John Staver, will agree to serve on the Board. The level of research expertise of Board members strongly affects the final product that appears in the *Journal*.

---

## From the Interpretive Research Interest Group

A collegial review panel for interpretive research has evolved. Volunteers from the INTERPRETIVE RESEARCH in SCIENCE EDUCATION NETWORKING GROUP are willing to read articles written from an interpretive/naturalistic/ethnographic perspective and comment on them prior to their being submitted for publication review.

The networking group encourages its members to become articulate about the relationship between interpretive research and the issues currently at the forefront of NARST's membership (i.e. ethics, epistemology, constructivism), and the manner in which such research might uniquely illuminate those issues.

---

## LSU Visiting Scholar/JRST Associate Editor Chosen

Dr. James H. Wandersee will be the JRST Associate Editor/Visiting Scholar in Science Education at Louisiana State University during the 1989-90 academic year. The Visiting Scholar/Associate Editor position for the 1990-91 academic year will be advertised in September in this *Newsletter* and the *Chronicle of Higher Education*. NARST members who plan to take a sabbatical leave during the 1990-91 academic year are invited to apply. Contact Ron Good, 223-E Peabody, LSU, Baton Rouge, LA 70803 for more information.

---

## NARST Awards Announced at the 1989 Annual Meeting

Several NARST Awards were announced at the 1989 Annual Meeting. NARST presented two awards for papers presented at the 1988 annual meeting. The Practical Applications Award was presented to James D. Ellis and Paul J. Kuerbis for their paper, *A Model for Implementing Microcomputers in Science Teaching*. The Outstanding Paper Award went to Armando Contreras and James Gallagher for their paper titled, *A Discourse Analysis on Newton's Second Law as Taught By Three Experienced High School Physics Teachers*. The JRST Award for the Outstanding Research Paper went to Glen S. Aikenhead for his article entitled, *An Analysis of Four Ways of Assessing Student Beliefs about STS Topics*. The Distinguished Contributions to Science Education Research Award recipient was Willard Jacobson.

---

## Eleventh Annual Rural and Small Schools Conference October 30-31, 1989

You are invited to participate in the Eleventh Annual Rural and Small Schools Conference at Kansas State University on October 30-31, 1989. It is an excellent opportunity to discuss projects, programs, and issues relating to education in rural communities. This year's conference theme is "*Small Schools: Economic and Educational Assets for the Rural Community*."

Each year participants come from across the nation to take part in the conference. We hope you will plan to attend and participate in the Rural and Small Schools Conference. Feel free to contact us for additional information (913-532-5886).

---

**COVER SHEET FOR NARST PROPOSAL**  
**1990 ANNUAL NARST MEETING, ATLANTA HILTON, ATLANTA, GA**

(Please type the requested information)

1. Title \_\_\_\_\_  
\_\_\_\_\_

2. First author presenting paper

Name \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

Institution \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_

3. Name and Institutional Address of Co-Author(s) and, if appropriate, Sub-titles (please include zip code for all co-author(s))

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Signature \_\_\_\_\_ Date \_\_\_\_\_

5. Type of activity proposed (check appropriate entry)

Contributed Paper  Paper Set  Panel  Symposium  Poster Session  Round Table

6. Special Instructions or Comments:

7. Descriptors that would identify the topic of the proposal:

\_\_\_\_\_

8. Are you a member of NARST? \_\_\_\_\_ Yes \_\_\_\_\_ No. If not, you must join to be on the program.

9. Please include the following materials with your proposal  
(Omit author name(s) and identifying information in abstracts)

- Two completed cover sheets
- Six copies of a 500-word abstract (to be published)
- Three to six page proposal with bibliography (6 copies)
- Two self-addressed, stamped envelopes
- Two 3 x 5 index cards containing name, address and telephone number of author and paper title

10. Do you plan a NSTA presentation?

**PROPOSALS MUST BE POSTMARKED NO LATER THAN October 1, 1989**

---

## Search for new Executive Secretary

The National Association for Research in Science Teaching (NARST) is searching for a new executive secretary to replace the outgoing executive secretary, Dr. Glenn Markle, Associate Dean, College of Education, University of Cincinnati, Cincinnati, OH 45221, telephone (513) 556-2335.

We encourage interested parties to contact Dr. Markle for details regarding his experiences and responsibilities. In addition, interested parties may contact the former executive secretary, now president of NARST (1989-1990), Dr. William G. Holliday, Department of Curriculum and Instruction, University of Maryland at College Park, College Park, MD 20742-1151, telephone (301) 454-1512.

The new executive secretary is scheduled to work with Dr. Markle for one year beginning any time (at the discretion of the new secretary) between the Winter of 1989 and the Summer of 1990. Full responsibilities are scheduled to begin one year or less following approval by the NARST board of directors and be enforce for a five-year term, providing the new appointee and affiliated university about a year to become acquainted with the position and its opportunities.

### Personal Qualifications

1. Professional background in science education including a record of scholarship and service to the field.
2. Ability to administrate the Association's business, work with a variety of professional people and provide a substantial amount of leadership within and outside the Association.
3. Willingness to commit a substantial amount of time and effort over five years to competently operate the Association at all levels and at regular intervals throughout the term of office.
4. Affiliation with a reputable university willing to provide support and opportunity to work with the Association.

### Institutional Commitments

1. Half-time secretarial services provided by a person familiar with the Association's business.

2. One-third release time from teaching and other regular responsibilities ordinarily required by a university.
3. University accounting system and other administrative and physical systems needed to conduct the business of the Association.

### NARST Commitments

1. Paid expenses for goods and services approved by the NARST board and including all travel costs, telephone and office materials, and a \$3000.00 start-up discretionary budget.
2. Leadership responsibilities beyond the ordinary managerial ones and including decision-making and voting rights on most committees and on all matters brought before the NARST board, as detailed in the constitution and by-laws of the Association.
3. Reasonable efforts by the NARST board to facilitate the executive secretary's responsibilities, as directed by the board from time to time and consistent with previous expectations.
4. Ample visibility and opportunities provided to the executive secretary and host university to communicate and work with a variety of people and organizations committed to improving science teaching.

### Applications

Interested persons are encouraged to discuss the nature of this position informally with members of the NARST board. Serious applicants should forward a letter of application describing reasons for seeking the position and providing details related to the relevant variables listed above. With the application, please provide evidence of institutional commitment (e.g., a letter from the university academic vice-president and your dean), a curriculum vitae and names of three persons who may serve as professional references. The search committee intends to begin consideration of applications on September 25, 1989.

Application materials should be forwarded to:

Dr. Glenn C. Markle  
Executive Secretary, NARST  
401 Teachers College  
University of Cincinnati  
Cincinnati, OH 45211

---

University of Cincinnati  
Cincinnati, OH 45221-0002

Non-Profit Org.  
U.S. Postage  
**PAID**  
Cincinnati, Ohio  
Permit No. 7281

---

Stanley L. Helgeson

303 Highland Avenue  
Worthington, OH 43085