

NARST Newsletter

Vol. 25(2)

NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING

June 1983

Funding News from Washington

Will Washington come up with research money for science educators? Mr. Bill Aldridge, executive director of the National Science Teachers Association (NSTA), believes that the U.S. government will pass important legislation this year allocating relatively large sums of money designated for pre-college science and math education. Still, two veteran observers in Washington, representing the American Educational Research Association (AERA) and the American Association for the Advancement of Science (AAAS) and watching funding developments of interest to many NARST members, were less hopeful about upcoming congressional action than was Mr. Aldridge. But they were more hopeful than two well-known experienced staffers at the National Science Foundation (NSF). Mr. Aldridge, nevertheless, is currently considered by his peers to be the most active and best informed person in Washington dealing with political issues and developments in science education.

Everyone NARST talked to in Washington recently agreed that amounts and proportions of federal funds earmarked for "NARST-type" research will be dependent on politicians and the American peoples' reactions to commissioned reports, legislative hearings and press coverage. In this regard, the April report of the National Commission on Excellence in Education has stimulated much more talk and action among politicians and media people than originally anticipated by many science educators. Of course, no one is predicting that the federal government will allocate a gargantuan "post-sputnik" budget. But senators, congressmen and the press are expressing concern and promising some assistance to research and non-research efforts in science teaching. A typical example of recent activity: *The Washington Post* pictured on its front page (May 18, 1983 - press date for NARST newsletter) the recent top winner of the science fair and talked about the need to prepare

and encourage young people to be equipped and to pursue a career in a science-related vocation. A few months ago, this news story would have been buried in the metropolitan section of the Post.

Interested in keeping abreast of and participating in funding efforts in Washington? NSTA will describe progress, developments and summary guidelines for obtaining funds in its tabloid publication, *NSTA Reports*. In addition, Aldridge and elected officers of NSTA will continue to organize lobbying efforts and testify before Congress with the goal of significantly increasing the federal government's commitment toward improved science teaching.

Aldridge says that NARST can participate by encouraging its members to contact their representatives and convince them to support bills pending in Congress that focus on the funding of research grants designed to improve science teaching. In this respect, the officers and board members of NARST and readers of the NARST newsletter would appreciate hearing from you on this matter. Write us. We will communicate your thoughts to interested and influential people. Members wanting information should contact the executive secretary.

Search for new Editor of JRST

The National Association for Research in Science Teaching (NARST) is initiating a search for an editor for the *Journal of Research in Science Teaching* (JRST). The new editor would assume some responsibilities as associate editor in the fall of 1983. Full responsibilities for editorship would be assumed in July, 1984 for a term of five years.

Personal Qualifications

1. Professional background in science education and particularly research and publication on topics related to science teaching.

2. Abilities to administrate, complete tasks, keep records, organize materials, manage a steady flow of manuscripts and meet deadlines.
3. Capabilities and some experiences in the editing of manuscripts, attention to details and an ability to communicate with actual and potential authors of JRST and to work effectively with the staff at John Wiley & Sons.
4. Facility to synthesize comments and criticisms and communicate feedback from reviewers to potential authors.

Institutional Commitments

1. Half-time secretarial services. This person should devote his/her time to the daily mechanics of logging in manuscripts, sending articles to reviewers, collecting comments from reviewers and generally keeping abreast of the routine duties of running JRST.
2. Time for editor. The time required as editor is about 15-20 hours per week. While the institution need not give released time for the new editor, it is a desirable criterion, especially in the first two years. The prospective editor should realize there is a substantial commitment of time and energy to the job.
3. Budget. The institution should provide some funds for expenses such as telephone and office supplies.
4. Facilities and equipment. While the job does not require special facilities and equipment, it would be desirable to have an office and standard equipment especially designated for the JRST. Space and filing cabinets are very important and word processing capabilities would be helpful.

Interested persons should forward a letter of application outlining personal qualifications, institutional commitments and reasons for seeking the position. Please supply a telephone number at which you can be reached during the summer. Also include a curriculum vitae and the names of three persons who might serve as references. Finally, submit the name of an administrator from your institution and a person familiar with your research background.

Application materials should be forwarded to:

Dr. William G. Holliday
 Executive Secretary, NARST
 The University of Calgary
 Calgary, Alberta
 Canada
 T2N 1N4

The deadline for submission of applications is July 15, 1983. If you have any questions, please telephone the executive secretary (403-284-7485).

Very Good Hotel Rates Offered NARST by the Famous Monteleone Hotel - New Orleans (1984)

The Monteleone Hotel in New Orleans will host our 1984 annual meeting, April 27 (evening) to April 30 (morning).

The hotel is in the heart of the French Quarter and is considered one of the very best hotels for our needs. The Monteleone is the only modernized hotel of any reasonable size with the traditional flavor of old New Orleans. The Monteleone was founded in 1888.

The Marriot and Hilton are more popular and larger hotels - a city block or two away from the Monteleone and are AERA hotels. But these hotels are more expensive than the rates offered to members of NARST at the Monteleone (\$65.00 single, \$75.00 double) and apparently they lack much of the atmosphere that can make our association and New Orleans a great place to visit and exchange thoughts.

NARST people are welcome to use the Monteleone and pay the low NARST rates while attending AERA (April 23-27, 1984).

Hertz, the car rental corporation, will provide NARST members in New Orleans with a 20% discount from their standard unlimited mileage rate honored one week before or after and during the dates April 23-30, 1984. Our convention identification number is 95778. Telephone the toll-free number, 800-654-2240, at least two weeks in advance. This announcement will be repeated in a subsequent newsletter.

Outstanding Paper Award and Practical Application Award

The NARST Awards Committee invites all those who presented papers at the 1983 Convention in Dallas to submit nine (9) copies of the completed paper for selection of the 1984 awards.

Mark clearly whether you wish the papers to be considered for the Outstanding Paper Award and/or the Practical Applications Awards. The Outstanding Paper is to be presented at the 1984 NARST Convention and the Practical Applications Papers will be presented at the 1985 NSTA Convention. Please send by September 15 the nine copies of your paper, with the award category marked, to:

Dr. Linda R. DeTure
School of Education and
Human Development
Rollins College
Box 2726
Winter Park, FL 32789

Profile: Michael Shayer

Michael Shayer
Centre for Science and Mathematics Education
Chelsea College
London SW6

Dr. Shayer began his research in 1967 while still a high school teacher in Britain. The problem was, why is it that teaching routines proven as successful in secondary schools for the intellectual elite fail to generalize to schools with an all-ability intake? His work, in charge of the science wing of the Concepts in Secondary Science and Mathematics program (SSRC-funded from 1974 to 1980), led to the production and validation of a method of assessing student/curriculum match. This work was published in *Towards a Science of Science Teaching* (Shayer and Adey, Heinemann Educational Books). Concurrently it was necessary to work on problems of Piagetian psychology, representing a pull towards fundamental research which still preoccupies his interests. Recent work has been concerned with the unity of concrete operations in children aged 5 to 11.

Dr. Shayer's present project, Cognitive Acceleration through Science Education, has been focused on the question, "How far is it possible to change through intervention techniques the present devel-

opmental spectrum in which only 30% of 15-year-olds attain even early formal operational thinking competence?" He has been a consultant to the Cognitive Level Matching Project of Shoreham School District, Long Island, and his other applied research interest is in the use of Feuerstein's Instrumental Enrichment program for disadvantaged adolescents. Although the latter is not directly the teaching of science, it is hoped that application of its principles may yield insight into how to use the field of science teaching more profitably for the lower ability student.

Profile: Robert Shrigley

Dr. Robert L. Shrigley
Science Education
The Pennsylvania State University
University Park, PA 16802

Dr. Shrigley's research has focussed on attitude change, especially as it applies to the science attitudes of elementary school teachers. His research has been based on a model drawn from the literature of the social psychologist; specifically Hovland's persuasive communication model designed in the 1950's as a part of the Yale University Communication Project.

Transferring from social psychology to science education the persuasion model has meant the development of the credible characteristics of the science methods instructor and the public school science supervisor. Also critical has been the methodical development of a rational communication.

To date, three experiments testing the modification of science attitudes for preservice teachers have been consistent in producing significant pre-post treatment effects using brief, oral or written communications. The relationship of science attitudes and self-esteem and cognitive styles of thinking have also been tested. Underway are several studies meant to methodically sort out and compare other variables: oral vs. written communication, sex differences, and retention of attitude change following posttest procedures.

With the upswing of persuasion research after a lull in the 1970's, more sophistication is developing within the sociopsychological literature. Dr. Shrigley's future research will probably focus on these trends by researching self-persuasion, rational vs. emotional appeals, mandates and the effect of supplementing persuasion with professional reinforcement.

1983 Election Results

Drs. Glen Aikenhead (board member), Rodney Doran (research coordinator), and Marcia Linn (board member) were elected to positions in NARST. Congratulations. Thanks go to Drs. Jim Barufaldi (board member), Stan Helgeson (past president), and Dudley Herron (board member) who left their elected positions at the April meeting in Dallas.

At present, the elected and appointed members of NARST are:

EXECUTIVE SECRETARY

Dr. William G. Holliday
NARST-EDCI
The University of Calgary
Calgary, Alberta
Canada T2N 1N4

PRESIDENT

Dr. Ann C. Howe
101 Heroy Building
Syracuse University
Syracuse, NY 13210

PRESIDENT-ELECT

Dr. Ertle Thompson
Ruffner Hall
University of Virginia
Charlottesville, VA 22903

IMMEDIATE PAST PRESIDENT

Dr. Carl F. Berger
School of Education
University of Michigan
Ann Arbor, MI 48109

BOARD MEMBERS

Dr. Glen Aikenhead (1986)
Faculty of Education
University of Saskatchewan
Saskatoon, Sask. S7N 0W0
Canada

Dr. Rodger Bybee (1984)
Education Department
Carleton College
Northfield, MN 55057

Dr. Linda R. DeTure (1985)
School of Education
Rollins College
Winter Park, FL 32789

Dr. Jane B. Kahle (1984)
Department of Biological Sciences
Purdue University
West Lafayette, IN 47907

Dr. Marcia C. Linn (1986)
ARP, LH, University of California
Berkeley, CA 94720

Dr. Russell H. Yeany (1985)
Science Education Department
University of Georgia
Athens, GA 30602

JOURNAL EDITOR

Dr. James Shymansky (1985)
Science Education - Physics Building
University of Iowa
Iowa City, IA 52242

RESEARCH COORDINATOR

Dr. Rodney L. Doran (1986)
553 Baldy Hall
SUNY at Buffalo
Amherst, NY 14260

NSTA REPRESENTATIVE

Mr. Robert B. Sigda
National Science Teachers Association
1742 Connecticut Avenue N.W.
Washington, DC 20009

Need Names and Addresses for Summer Membership Drive

NARST will soon undertake a major membership drive including the mailing of promotional materials to prospective and current members and the display of advertisements in NSTA publications.

We would appreciate your help. Please send us the names and addresses of anyone you feel could benefit from membership in NARST. Experienced people tell us that most commercial lists of candidates would be of little value to an association like NARST. Thus, we need your assistance. If you have questions about this particular matter, phone us collect.

Register-Directories Sent to Government Agencies, Associations and Publishers

Register-Directories have been sent to government agencies, professional associations, and selected commercial firms. For example, the National Science Foundation (NSF) was pleased to have received an updated description of science educators potentially interested in receiving information about granting legislation. Furthermore, the American Association for the Advancement of Science (AAAS) will use the Register and other new mailing lists to build a distribution system. Apparently, most of the earlier lists describing science educators have been discarded. In addition, many publishers of research and theory distributing descriptions of recent books

often use only mailing lists linked to organizations like APA or AERA. Finally, NARST will use the information in the Register-Directory to assist people seeking experts and consultants in science education.

NARST claims that, on a per capita basis, our members have influenced and will influence more curricular changes and teaching practices in science education than any other group of people.

1982 Financial Report National Association for Research in Science Teaching

A. Direct Support, Revenue and Reserves		\$37,764.01*
1. Membership Dues	\$23,983.00	
456 United States		
43 Canada-Mexico		
48 Outside North America		
2. Registration Fees	\$ 7,645.00	
3. Journal Royalties	\$ 1,599.75	
4. Miscellaneous Income	\$ 781.73	
5. Local Donation	\$ 1,975.00	
6. Carryover Funds from 1981	\$ 1,779.54	
7. Invested Funds	\$ 1,570.00	
B. Expenditures (accounting categories used by The University of Calgary)		\$37,794.61
1. Clerical & Stenographic	\$ 24.34	
2. Materials	\$ 1,123.08	
3. Courier Service	\$ 78.61	
4. Office Supplies & Printing	\$ 3,471.93	
5. Books and Periodicals (& Awards)	\$19,215.80	
6. Postage	\$ 1,708.15	
7. Telephone	\$ 4,280.84	
8. Communications Media	\$ 69.36	
9. Travel	\$ 5,962.31	
10. Entertainment	\$ 528.63	
11. Legal & Audit Fees	\$ 1,331.56	
12. Overspent Balance (not an expenditure)	\$ 30.60	
C. Estimates of Indirect Support from the University of Calgary		
1. Executive Secretary (more than 33% of salary and benefits)		
2. Secretarial services (50% of salary and benefits)		
3. Postage for correspondence (\$400.00)		
4. Photocopying charges (\$500.00)		
5. Computer services (\$1,000.00)		
6. Other overhead costs, including accounting services		
D. Certification		
Members of the board of directors have been presented with statements of certification regarding the accuracy of the general revenues and specific expenditures described above. These statements were certified by the business officer, Controller's Office, University of Calgary and by the executive secretary of NARST. Revenues and expenditures of NARST		

are processed through the Controller's Office in accordance with accounting procedures authorized by the Canadian Province of Alberta. Detailed accounts and original copies of all financial documents are available at the Controller's Office for inspection by persons authorized by the board of directors of NARST.

* Amounts quoted in U.S. funds.

Call for Proposals - 1984

General Information

The 1984 annual meeting will be held in New Orleans, Louisiana, April 27 (evening) to April 30 (morning) at the Monteleone Hotel in the French Quarter. The NARST meeting will follow immediately the AERA annual convention (April 23-27, 1984). More details will be provided in later newsletters.

NARST encourages the presentation of a wide variety of scholarly papers reporting investigations in all aspects of science education. Historical, philosophical, ethnographic, and evaluative studies as well as reports of empirical research and critical reviews are welcomed. Papers should be classified into one of the following topic areas:

- (1) Teacher Education: Preservice;
- (2) Teacher Education: Inservice;
- (3) Teacher Behaviors or Characteristics;
- (4) Student Behavior or Characteristics;
- (5) Instruction;
- (6) Learning Theory;
- (7) Curriculum Development or Evaluation;
- (8) Research Methodology;
- (9) Instrument Development or Use;
- (10) Scientific Literacy;
- (11) Social Issues;
- (12) Other.

Research reports of major science education centres and reports of "action research" of major significance and interest to a broad spectrum of science education interests are strongly encouraged.

An individual may present only one paper but may be listed as co-author of another paper and may also participate in a symposium or as a presider or discussant. For participants unfamiliar with the format and atmosphere at NARST meetings, presenters are strongly encouraged to stimulate discussion. Audiences at NARST meetings want to be active and not passive spectators.

NARST members and others who wish to make presentations at the meeting may submit proposals in any of the following formats:

1. **Contributed Papers.** Generally, brief 10 to 15-minute reports of research are grouped by the program committee, three or four in each session. This format accommodates persons who have not planned to report their research with other members of a team. Discussants are usually assigned to these sessions and presenters will provide discussants with a copy of the paper before the annual meeting.
2. **Paper Set.** Several related papers originating from a common base of research are presented in one session. This format accommodates from three to five papers that may divide a single report which represents a major research effort. This format allows for common elements of design or approach to be presented only once rather than be repeated by each presenter.
3. **Round-Table Discussion.** Round-table discussions are used to provide a thorough analysis of a paper by a group. Presenters will have an hour in which various aspects of a study are examined with others in a discussion format. If members agree to present their research in this format, they should bring such materials as protocols, instruments, computer printouts, experimental curriculum materials, and logs to aid the discussion. Typically, this format is not conducive to presentations which require the use of audio-visual equipment.
4. **Symposium.** A symposium should focus on a specific issue or topic of some importance and present a variety of perspectives. It should provide for interaction among participants with diverse points of view. Proposals should be submitted as a package, listing participants by name on the cover sheet. The summary should include a statement of each presentation, containing such information about the background and interests of each participant as may be relevant. Names on the proposals, however, should be omitted.
5. **Research Methods Seminar/Workshop.** These sessions are designed to enable NARST members to acquire new research skills or update old ones. These one- or two-hour sessions are planned for intensive involvement by those in attendance, and presenters are expected to provide resources for study and discussion.
6. **Poster Session.** Informal presentations that allow for discussion with the researcher. A display of graphic materials should be incorporated.

Materials to be Submitted

1. Two copies of completed Cover Sheet.
2. Six copies of a 4-6 page, double-spaced summary, with bibliography. Omit names of author(s). The summary should ordinarily include:
 - a. objectives or purpose;
 - b. methods;
 - c. data sources;
 - d. results or conclusions;
 - e. significance.

If the proposed paper cannot be summarized in this form, some other appropriate form may be used.
3. Six copies of an abstract of 100-200 words to appear in ERIC Abstracts. Omit name(s) of author(s).
4. Two self-addressed, stamped envelopes.
5. Two 3" x 5" index cards containing typed name, address, and telephone number of author and title of paper, in that order.

Mail to: Ertle Thompson
 Ruffner Hall
 405 Emmet Street
 University of Virginia
 Charlottesville, VA 22903

Deadline (Proposals Received): October 15, 1983.

Review of Proposals

All proposals will be reviewed blind by two or more members of the program committee. Criteria will include (a) relevance to science education, (b) general quality, and (c) clarity of expression. Those who submit proposals will be notified of the decision of the program committee as soon as possible after final decisions are made.

Advance Program

An Advance Program, and conference registration and hotel reservation forms, will be mailed to all NARST members later this year.

Further Questions

If you have other questions about the 1984 New Orleans meeting, please telephone or write the executive secretary.



COVER SHEET
1984 NARST ANNUAL MEETING - NEW ORLEANS, LOUISIANA

1. TITLE OF PAPER OR SYMPOSIUM _____

2. AUTHOR PRESENTING PAPER _____
3. AUTHOR'S AFFILIATION _____ PHONE _____
AUTHOR'S ADDRESS _____

4. NAMES, AFFILIATIONS, ADDRESSES OF CO-AUTHOR(S) OR OTHER PARTICIPANTS

5. PREFERRED PROGRAM FORMAT _____
Are you willing to have paper assigned to another format if necessary? _____
6. TOPIC _____
7. TYPE OF RESEARCH _____
8. DO YOU NEED AN OVERHEAD PROJECTOR? _____
9. WOULD YOU BE WILLING TO SERVE AS DISCUSSANT OR PRESIDER? _____
10. Signature _____
11. Special instructions or comments _____

Thank you for your interest in improving science teaching - through research.

