NARST Newsletter

Vol. 24(2) NATIONAL ASSOCIATION FOR RESEARCH IN SCIENCE TEACHING June, 1982

The President's Column:

Congradulations to all of our members who had the opportunity to attend the 1982 meeting of the National Association for Research in Science Teaching at Abbey at Lake Geneva, Wisconsin. The accommodations were great and the sessions were even better. A special thanks to all of those who made it possible for the conference to take place, from speakers to presiders to evaluators. One highlight of the meeting that deserves special recognition was the poster sessions held on Tuesday even, April 6. The turnout, informal interaction, the sight of over twenty-two poster sessions in a large hall, and opportunities for our members to present their research in a more informal setting, were reminiscent of science fairs in their most positive sense. Those who prepared posters, I am sure enjoyed the sessions and felt their efforts were rewarded. In spite of blizzard and hot tubs, all who attended learned and enjoyed.

During the Annual Meeting, the Executive Board met twice - in perhaps the toughest meeting we have had in years - to discuss two very serious issues. One of the most difficult decisions reached was to hold our 1983 Annual Meeting in Dallas, Texas.

The Board agonized long and hard over this, and between sessions went to the members present to learn of their preferences. After long discussion, it was decided to go to Dallas for our next meeting. The Board reached this decision based upon several real concerns. One, that members in the south and west would continue to travel for another year to the midwest or east coast; and in going to Montreal, to the far east for many of them. In times of tight budgets, it would be very, very difficult for many to stretch their limited travel budgets to reach Montreal. Historically, the meetings related to NSTA have always been much better attended and historically, our poorest attended meetings have always been related to AREA in one corner of the country or the other. The most recent example of this was the poor turnout at the excellent meeting held in San Francisco. Even the beauty of San Francisco could not draw our members to such a distant place as could a meeting with NSTA in a more central location. The Board, however, wishes to express to the membership that it in no way believes that this should set a precedent for holding all future meetings in conjunction with NSTA. To the contrary, the Board will vigorously pursue meetings in conjunction with AREA in the future if the site of AREA is in a central location. In the past, we have been plagued by AREA changing meeting places as well as holding their meetings in excellent but distant locations for a large portion of our members. We hope that as many of you as possible can attend our 1983 meeting in Dallas to make that annual conference as sucessful as the conferences held in Grossingers, New York and in Lake Geneva, Wisconsin.

A second most difficult decision concerns the membership of NARST. Our membership has not increased in proportion to the costs of operating the organization. The Executive Board decided that, rather than further increasing dues or having the membership recruitment relegated to a committee, it will become the direct responsibility of each Executive Board member. We ask that each member of NARST work to obtain one new member. In this way, our membership would be doubled, helping our organization immensely. Involving more people in research in science education would also help. To this end, several members have encouraged recruiting potential members in areas under-represented in our organization, such as community colleges, large school districts where research is carried out on a school district-wide basis, and the private school sector. We hope that each of you will make a commitment to recruit one member of NARST. If you need any recruitment materials, please contact Bill Holliday or me.

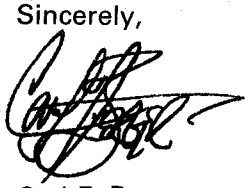
Send Official Correspondence to Dr. William G. Holliday, Executive Secretary, NARST-EDCI, The University of Calgary, Calgary, Alberta, Canada T2N 1N4. (Telephone 403 - 284-7485)

Now a broad issue. We're all painfully aware of how difficult it is today to get outside funding to carry on our research. Government funds have diminished and recent research indicated that because private funding is related also to economic conditions rather than altruistic desires, private funding for research is also shrinking. When I recently visited the Sloan Kettering Foundation for our University, I learned that they were more favorable to funding research for an individual organization than they were to funding research for an individual college or faculty member. At first I was surprised by this, but on reflection, I began to realize that this private foundation gets the maximum amount of visibility for its dollar by having an international organization such as ours work on research, rather than one university. Perhaps it is time for all of us to examine alternative ways to support our research at NARST,has developed a model which we would have networks of research areas present, one project is underway in which work on concept development using micro-computers centered at Ohio State University is being carried out at several sites throughout the country. This way, Ohio State can obtain the necessary population to provide definitive answers for the study, and other colleges and universities may participate in research related to the project but in their own sphere of interest. This is just one example of the positive ways we can meet the challenge of low resources. We will have to work smarter and harder.

I think we all look forward to an exciting but difficult year. The ideas of each on of us are needed to make science education successful. We particularly need the input of science education research to help shape policy decisions at the local, state and national level -- more than ever before. NARST can provide such leadership and coordination with your help. I ask each of you to send me your thoughts on how we might best utilize NARST to help provide input in national policy decision-making. I will summarize your responses and report them in our next newsletter.

Good wishes to all of you for this coming year.

Sincerely,



Carl F. Berger
President, NARST

1983 NARST (April 5-8) Meeting: Dallas - Hilton near the NSTA (April 7-11) Downtown Convention Center

NARST will meet next spring before the meeting of the National Science Teachers Association (NSTA). The Dallas-Hilton was the chosen location - one of the closest hotels to the downtown Convention Center. Specifically, our NARST meeting will begin on the evening of April 5 and end at noon on April 8. NSTA will meet from the afternoon of April 7 (mostly committee meetings on this day) through April 11.

NARST room rates were negotiated at $31.00 (per person, double occupancy - based on availability). Compare this low-Dallas rate with a more typical quote recently given to a large organization by another local hotel, $47.00 plus meeting room fees. Moreover, NARST will not have to pay meeting room rental fees of $1500.00 ordinarily charged by Hilton to other associations. In these tough times, NARST is trying to keep its costs and fees at the lowest possible level. (In this regard, we hope to report some very good news in our next newsletter.)

Suggestion: Make your reservations early with the Dallas-Hilton through NARST and continue your stay at the Dallas-Hilton for the NSTA national convention. Encourage your colleagues to stay at the Dallas-Hilton and invite them to our meetings and receptions at the hotel.

Be sure to tell your colleagues the success story concerning our 1981 and 1982 meetings at Grossinger's in New York and at the Abbey in Wisconsin. These meetings were extremely successful by traditional standards, according to written feedback from participants and the percentage of members attending our association's annual meetings (1981, 35%; 1982, 45%).

Why? The credit must go to the past members of program committees who have maintained high professional standards and have accepted for presentation only proposals of good quality. More generally, credit must go to the members of NARST who have taken the time and effort to create intellectually stimulating discussions at research sessions while encouraging an atmosphere of congeniality and thoughtfulness throughout the entire conference. Members of NARST seem to be extraordinarily hospitable people.

The board of directors of NARST are looking forward to ***your*** attendance at the Dallas meting in 1983!

Register-Directory: Members of NARST

If you mailed your dues to us before about February 15, 1982, and were not at the annual meeting at The Abbey, send us a note and we will mail you a free copy of the Register-Directory. Others may obtain copies by mailing their requests with a $7.00 cheque ($5.00 - document, $2.00 - postage and handling) to the executive secretary.

We will update this document early next year by adding recently received information and by giving members an opportunity to change their entry in December of this year. About 80% of our members remitting their 1982 dues by February 20, 1982 complied with our request to supply NARST with information about their research interests and background.

Funds for this venture were obtained from sources outside the association.

Profile: Fred N. Finley

Science Education Centre
College of Education
University of Maryland
College Park, MD 70742

Finley's research goals are to: (1) understand the changes in student knowledge that result from typical instruction in widely-taught content domains, and (2) to understand how students' knowledge is related to their successful completion of specific science tasks and problems.

The major premise of his research is that various types of science knowledge, content and processes interact resulting in student science competence. Science content is considered to be composed of concepts — the meaning attached to words or phrases and propositions — assertions used to describe and explain natural phenomena. Science processes are viewed as task specific cognitive strategies that are a sequence of information processing steps in which the content is used to perform a specific task or solve a specific problem. This theoretical position results from descriptions of the nature of science as discussed by philosophers of science and recent research in cognitive psychology. Research following from this theoretical position has included a critique of existing views of science processes used by science educators, the development of techniques for representing science educators, the development of techniques for representing science content, studies of the process of classification and geology, and the study of what students recall from reading science text.

Research in progress includes a study of the conceptual change resulting from reading science text and student conceptions of energy transfer at the secondary level, and student conceptions of wind and air, magnetic interactions and the plant nutrient cycle at the elementary level.

Profile: John Staver

John R. Staver, Ed.D.
Assistant Professor of Education and
Natural Science
University of Illinois at Chicago
College of Education, Box 4348
Chicago, IL 60680

Staver's research interests centre on the relation of children's reasoning capabilities to teaching and learning science in grades K through 14. Several papers on this subject have been published in the *Journal of Educational Psychology, Journal of Research in Science Teaching, Science Education, School Science and Mathematics* and *The Science Teacher.* One paper, done in collaboration with Dorothy Gabel of Indiana University, was awarded the JRST Award for 1979. Recent or current projects include editing and co-authoring a chapter in the 1982 AETS yearbook, three studies on the effects of reasoning level and posttest format on posttest performance and a study describing the reasoning demand of elementary science texts. Work also is underway on a description of the reading capabilities, learning styles and science process skill development of a selected sample of gifted urban minority adolescents. The Piagetian logical-operations test developed and constructed by Staver and Gabel also is being revised.

Mr. Staver received his doctorate from Indiana University in 1978. Currently, his teaching responsibilities include elementary and secondary science methods, graduate research methods and general curriculum courses. He also devotes much of his

time and energy to the translation and dissemination of science education research to science teachers through service activities in the metropolitan Chicago area, focusing primarily on the relation of students' reasoning capabilities to teaching and learning science. He currently serves as vice-president of the Illinois Science Teachers Association.

Outstanding Paper Award

The NARST Awards invites all those who presented papers at the 1982 Convention at the Abbey to submit eight (8) copies of the completed paper for selection of The Outstanding Paper Award. This award will be presented at our next convention in Dallas. Please send by August 31 the eight copies of your paper and a stamped self-addressed postal card (which will be returned to you on receipt of your papers) to Linda R. DeTure, SEHD, Box 2726, Rollings College, Winter Park, Florida, 32789.

Springtime on the Potomac

Ann Howe

The National Acadamy of Sciences (NAS) brought together 500 scientists, mathematicians, engineers, and educators on May 12 and 13 in Washington, D.C. to hear representatives of government, industry, and education discuss the need for improvement in science and mathematics education. A message from President Reagan disappointed those who had hoped that federal support might be forthcoming, but Senators Schmitt and Glenn showed that some members of Congress are aware that this is a national problem with far-reaching implications. The parade of speakers included the Secretaries of Education and Defense, one governor, several members of the House, and, to balance things off, Carl Sagan.

Immediately following the NAS meeting, the American Association for the Advancement of Science (AAAS) held a conference with its affiliated organizations. The purpose of the conference, which was also held in Washington, was to build support for precollege science and mathematics education wtihin professional associations of scientists and engineers. Most of those attending this conference were already aware of the problems and spent much of the time in working groups, discussing practical ways to exchange information, marshall resources, and influence policy decisions that affect science and mathematics education.

News of the crisis is spreading. Will all this "conferencing" have a practical outcome? Stay tuned for future bulletins.

The British Journal of Research and Development in Science and Technological Education

The *British Journal of Research and Development in Science and Technological Education* is a newly proposed journal which is likely to get off the ground in the near future provided sufficient interest exists. The journal would include book reviews and articles describing research and development work in both science and engineering-technological education. The editor welcomes manuscripts from American and Canadian workers. Further information can be obtained from the journal's editor, Dr. W.J. Wilkinson, Science Education Centre, University of Hull, Hull, England.

Announcements

A conference on computers in biology will be held as part of the second annual short course series at Notre Dame, August 15-21, 1982. For more information, contact Prof. Theodore J. Crovello, Biocomputing Short Courses Coordinator, Department of Biology, The University of Notre Dame, Indiana 46556. Phone: (219) 239-7496.

A conference on pre-service and in-service education of science teachers will be held in Israel, January 3-13, 1983. For more information, contact Dr. P. Tamir, Chairperson, Hebrew University, Jerusalem.

A newsletter on "Attitude Research in Science Education" is being published by Thomas R. Koballa, Jr., Pikeville College, Pikeville, Kentucky. For more information, please contact Dr. Koballa.

For last-minute placement information, please send your request to the executive secretary. At this time, most positions available for science educators have apparently been filled. Nevertheless, some positions are available to science educators and members of NARST are encouraged to obtain placement information from the executive secretary at any time throughout the year. Always feel free to write or telephone NARST. Our job is to serve you.

National Association For Research in Science Teaching
1981 Financial Report
(Quoted in U.S. Funds)

A. Direct Support and Revenue

1.	Membership Dues		$22,778.00
	Regular (576 x $34.00)	$19,584.00	
	Sustaining (5 x $68.00)	340.00	
	Patron (1 x $100.00)	100.00	
	Foreign (51 x $54.00)	2,754.00	
	Emeritus (25 x none)	—	
2.	Registration Fees (235 x $25.00)		$ 5,875.00
3.	Other		$ 3,182.00
	Journal Royalties	$1,481.00	
	Interest	118.00	
	Miscellaneous	763.00	
	University of Calgary (Education - Dean's Office)	820.00	
4.	Total Income		$31,835.00
5.	Invested Funds		$ 1,570.00

B. Expenditures (accounting categories used by The University of Calgary) $29,987.57

1.	Clerical & Stenographic	$ 28.70
2.	Materials	1,171.20
3.	Courier Service	168.38
4.	Office Supplies	909.87
5.	Books and Periodicals	13,042.81
6.	Printing	1,900.64
7.	Postage	1,079.16
8.	Telephone	2,614.89
9.	Communications Media	606.55
10.	Travel	8,102.48
11.	Entertainment	62.81
12.	Maintenance	29.52
13.	Equipment	270.56

C. Unspent Balance $ 1,847.12

D. 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 ($332)
4. Photocopying charges ($498)
5. Student help ($415)
6. Computer services ($664)
7. Start-up contribution ($1660 from Vice-President)
8. Other overhead costs including accounting services

E. 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, The University of Calgary and by the executive secretary of NARST. Expenditure of NARST funds is strictly done through the Controller's Office in accordance with accounting procedures authorized by the Canadian province of Alberta. Detailed accounts and original copies of all documents are available at the Controller's Office for inspection by persons authorized by the board of directors of NARST.

Call For Proposals - 1983

General Information

The Annual Meeting will be held in Dallas, Texas, April 5-8, at the Dallas-Hilton Hotel. The NARST meeting will immediately precede the NSTA Annual Convention. For more details read the article, 1983 NARST Meeting, or write to the executive secretary of NARST.

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.

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.

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 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. 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, however, should be omitted.
5. **Research Methods Seminar/Workshop.** These 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 3-5 page single-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: Ann C. Howe, 101 Heroy Bldg., Syracuse University, Syracuse, NY 13210

Deadline (Proposals Received): October 15, 1982.

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.

Further Questions

If you have other questions about the 1983 Dallas meeting, please telephone or write the executive secretary.

COVER SHEET

1983 NARST ANNUAL MEETING — DALLAS, TEXAS

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

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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 _____