

NARST ANNUAL BOARD OF DIRECTORS MEETING
April 6, 2002

Table of Contents

Agenda Approval

Introductions

Minutes.....Section 1

- October 2000 Board Meeting
- April 2001 Board Meeting
- October 2001 Board Meeting

President's ReportSection 2
Norman G. Lederman

Past President's ReportSection 3
Sandra K. Abell

President-Elect's ReportSection 4
Standing Committees – 2002-2005
Cheryl L. Mason

Program CommitteeSection 5
Cheryl L. Mason & David B. Zanduliet

Executive Secretary's ReportSection 6
John Tillotson

JRST Editor's ReportSection 7
Dale R. Baker & Michael D. Piburn

Research Coordinator's ReportSection 8
Frank E. Crawley

Standing Committee Reports

Financial Advisory Committee	Section 9
<i>Diane Ebert-May</i>	
Policy Advisory Committee	Section 10
<i>Sandra K. Abell</i>	
Publications Advisory Committee	Section 11
<i>Charlene M. Czerniak</i>	
Election Committee	Section 12
<i>Sandra K. Abell</i>	
International Committee	Section 13
<i>Sharon J. Lynch</i>	
JRST Award Committee	Section 14
<i>Jonathan F. Osborne</i>	
NARST Outstanding Paper Award Committee	Section 15
<i>Kathryn Scantlebury</i>	
Distinguished Contributions Through Research Award Committees	Section 16
<i>William W. Cobern</i>	
Early Career Research Award Committee	Section 17
<i>J. Randy McGinnis</i>	
Outstanding Doctoral Dissertation Award Committee	Section 18
<i>Leonie J. Rennie</i>	
Outstanding Master's Research Award Committee	Section 19
<i>Diane Ebert-May</i>	
Equity Committee	Section 20
<i>Alberto J. Rodriguez</i>	
Membership Committee	Section 21
<i>J. Randy McGinnis</i>	

Special Committee Reports

National Science Teachers Association Representation	Section 22
<i>Maureen M. McMahon</i>	
American Assoc. for the Advancement of Science Representation.....	Section 23
<i>Marcia C. Linn & Kathryn Scantlebury</i>	
International Council of Association for Science Ed. Representation ...	Section 24
<i>Sharon J. Lynch</i>	
Environmental Education Ad Hoc Committee	Section 25
<i>Michaela Zint</i>	
Informal Science Education Ad Hoc Committee	Section 26
<i>Lynn Dierking & John Falk</i>	
Practitioner Research and Ad Hoc Committee	Section 27
<i>Emily Van Zee & Deborah Roberts</i>	
NARST Policy Manual	Section 28

Other Old Business

New Business

Time and Location of Spring and Fall 2002 Board Meetings

Adjournment

October 2000

2000 Fall Board of Directors Meeting
Minutes

National Association for Research in Science Teaching (NARST)
Drury Inn, St. Louis
October 13-14 2000

Session I: October 13, 2000

Called to order at 6:30 PM by Abell

Members in Attendance

Sandra K. Abell	Board of Directors Member and President
Kathleen M. Fisher	Board of Directors Member
M. Gail Jones	Board of Directors Member
Norman G. Lederman	Board of Directors Member and President-Elect
Sharon J. Lynch	Board of Directors Member
Maureen M. McMahan	Board of Directors Member and NSTA Representative
Léonie J. Rennie	Board of Directors Member
Alberto Rodriguez	Board of Directors Member
Patricia E. Simmons	Board of Directors Member
Nancy B. Songer	Board of Directors Member and Research Coordinator
David F. Treagust	Board of Directors Member and Past-President

Ex-Officio Member:

David Haury	Executive Secretary
-------------	---------------------

Guests:

Dale Baker	Incoming JRST Editor
Kim Nichols	Annual Meeting Coordinator

Members not in Attendance:

Charlene M. Czerniak	Board of Directors Member
Diane Ebert-May	Board of Directors Member
Kathryn Scantlebury	Board of Directors Member

Ex-Officio Members not in Attendance

Charles Anderson	JRST Editor
James Gallagher	JRST Editor

1. President's Report (Abell)

Greetings were extended to the members. Welcome was extended to Haury who was recently appointed as Executive Secretary. Abell facilitated introductions and offered announcements regarding accommodations at the Drury Inn, the meeting schedule, and dining arrangements on Saturday evening at the Hyatt. The full schedule for the weekend, including Planning Retreat, was reviewed.

Motion 1

Moved (Treagust) and seconded (Jones) that the agenda be approved as presented.

Vote: carried unanimously.

2. The minutes of the previous Spring Board Meeting were presented for approval or correction. Treagust noted that there had been no follow through on item 5 regarding provision of a plaque recognizing the contributions of John Wiggins, but that action needs to be taken.

Motion 2

Moved that minutes be approved as presented (Fisher) and seconded (Lynch).

Vote: Carried unanimously..

3. President's report

- The printed report was reviewed
- The Committee was advised that the arrangements for financial support of the Executive Secretary at OSU will have to be renegotiated after one year if Haury remains appointed to the position. This is at the request of the Dean of the College of Education at The Ohio State University.
- The new NARST Web site was discussed. The new design was deemed acceptable, but the Listserv remains offline due to technical difficulties at SUNY, the host institution.
- Concern voiced by several members that the business of the organization is being hampered by lack of an operational Listserv. The capacity of the institutional infrastructure was questioned, and it was mentioned that there are other options in terms of housing and maintaining the equipment. It was mentioned by Nichols that the University of Georgia could provide a server if it necessary.
- A question raised as to whether plans have been made to recognize the contributions of Art White as Executive Secretary.

Motion 3

Moved (Jones) and seconded (Rodriguez) that a plaque for Art White be prepared and presented at the upcoming Annual Meeting.

Vote: carried unanimously..

- Questions were raised in general regarding procedures for recognizing contributions of members at meetings. No action taken.
- Regarding the Annual meeting sites for 2002 and 2003, the assistance of Conferon was described by Abell. The Committee was thanked for the recent cooperation in discussing and making decisions about venues for the upcoming Annual Meetings. The contract for 2002 was reviewed, and the Committee was advised that Conferon is putting together plans for the 2003 meeting.
- Nichols presented information and comparisons on venue options for the 2003 meeting in Philadelphia. She described visits to the Wyndham and Marriott hotels downtown, and the Adam's Mark which is out of the downtown area. Differences in the dates of hotel availability were noted, coming before and after the NSTA conference on March 27-30. It was noted that Easter comes later in April in 2003, so that will not be a factor in selecting a date for the NARST Annual Meeting.
- Questions & comments regarding venue plans:
 - Conference room size was one issue; the point was made by Nichols that this might be an opportunity to focus on more poster sessions and encourage consideration of a greater variety of formats.
 - Committee members were referred to the New Orleans Annual Meeting agenda to illustrate what will eventually have to be negotiated in Philadelphia.
 - The strength of the Marriott bid was noted to be: (a) a location near the historic district, and (b) the possible availability of an elegant tea room for the banquet.
- Thanks was expressed to Nichols for preparing the report on possible venues and the comparison of features.

- In considering the call for a vote on the venue for the 2003 Annual Meeting, there was discussion of the pros and cons of the Marriott and Wyndham hotels. There was no support for the Adam's Mark hotel. The primary issues are: room price, dates of availability, banquet room availability, and internet connections for a "technology room." Interest in having multi-media poster sessions was expressed.
- Nichols was charged with collecting more information regarding room rates and dates of availability, with a final vote to follow by e-mail.
- Abell announced that discussion of Ad Hoc committee issues are to be revisited during the planning meeting that immediately follows the Board Meeting.
- The Committee was advised that the terms of current newsletter editors will be up in Spring of 2001. A question was raised about the need for and function of the newsletter, and the number of newsletter issues needed. Songer noted that there is a need to take into account the whole "communications plan" in order to consider various modes of professional communication.

4. Past President's Report (Treagust)

- It was announced that the Elections Committee has nominated Glenda Carter of North Carolina State University as the sixth candidate for the At-large position to be filled this year on the NARST Board of Directors. Other candidates are as follows:
 Johathan Osborne, King's College
 Bill Cobern, Western Michigan University
 Pamela Fraser-Abder, New York University
 Ann Cavallo, University of California – Davis
 Randy McGinnis, North Carolina State University
- It was noted that international representation on the NARST Board remains an issue. Alternative plans for insuring international representation on the Board were discussed. This was designated as another issue to be considered at the Planning Meeting to be held following the Board Meeting.
- The Committee was alerted to the fact that Songer's term as Research Coordinator will be up in Spring of 2001, so two candidates will have to be sought for the Research Coordinator position. The alternative would be consideration of whether the position should be eliminated or altered. It was decided that another point of discussion at the Planning Meeting would be a clarification of the role of the Research Coordinator. It was mentioned that the Board needs to determine what is desired from that position and then identify possible candidates for the upcoming election.

Motion 4

Moved (Songer) and seconded (Fisher) to approve the slate of candidates for Board of Directors as presented,

Vote: passed unanimously..

- Treagust drew attention to the provision of updated committee procedures within each committee section of the Board Book.
- Regarding the offer by Taylor and Francis to provide a discount to NARST members for subscriptions to the *International Journal of Science Education*, the Executive Secretary will provide labels to Taylor & Francis for purposes of notifying members of the opportunity.
- Regarding the Richardson offer, Songer spoke with him by telephone. He would like proposals for commissioned papers, and these will be reviewed by the Publications Committee. A total pool of \$20,000 is being offered to support development of papers on science literacy at the elementary school level. He remains open to suggestion as to the audience and goal of the papers. There is a

need to draft the call for proposals, and this will require a joint effort on the part of the Research Committee and the Publications Committee. Richardson is a former president of Delta corporation.

5. Report of the Research Coordinator (Songer):

- It was noted that there have been ongoing attempts to define ourselves, with brainstorming sessions and ongoing discussions.
- Three matters recently considered:
 1. The previously discussed response to the Richardson letter regarding the invitation of proposals for commissioned papers.
 2. A review re of the search categories currently presented on the NARST membership form. It was noted by some that STS, higher education , international education, and the history & nature of science and some other categories are clearly missing. One option would be to enlarge the list to include the missing categories, but another option would be to actually simplify the listing and put it in greater alignment with the topic strands used to structure sessions at the Annual Meeting. It was suggested by Abell that this is a matter that should be discussed by Team 1 during the Planning Meeting to follow the Board Meeting.
 3. Evaluations of pre-conference workshops have been completed, and two of the three proposed workshops have been approved:
 - *Intelligent Design Theory*, the latest chapter in the on-going controversy between the creationist community and the scientific and science education communities. John Staver and Lawrence Sharmann, Kansas State University.
 - *A Disciplined Inquiry for Liberating Mind*, instruments to explore constructivist science teaching and learning, Judith A. Burry-Stock, The University of Alabama and Gary Varella, George Mason University

Break: 8:15

Meeting Reconvened : 8:35

Note: Songer departed during the break.

6. President-Elect Report (Lederman)

- Two issues presented:
 - There are ongoing concerns expressed regarding the criteria for nominating people for awards; action needed to resolve these issues.
 - There has been confusion regarding the contract for the upcoming Annual Meeting and the actual dates of the meeting.
- Lederman also noted that he would begin appointing committee members near the beginning of January, or perhaps February.

6. Program Committee (Lederman)

- Conference details
 - Dates for 2001 conference: March 25-28
 - It was noted that all the dates indicated in Section 6: of the Board Book are wrong. Following are the dates for the next Board meeting:
 - Board meeting (First Session): March 25, 1-10 pm
 - Board meeting (Contingency Session, if needed): March 26
 - Board meeting (Final Session): March 28, 8:30-1 am
 - Plenary speakers
 - Paul Farber
 - Bob Bogdan

Hugh Munby

- Nichols described the schedule for 2001 Annual Meeting. She described the change this year in the schedule pattern, with the meeting spanning three full days rather than a half-day followed by two full days and another half-day. The last full day of the conference will be March 28.
- Options for social events were discussed.
- An overview of session strands, submissions, and strand coordinators was presented by Nichols. 543 proposals were submitted, and approximately 70% were submitted online.
- After discussion of the online submission of proposals, Nichols suggested a question that should be considered during the Planning Meeting: Should all of the web-based NARST services be located in one place? This will be a question for Team 2.
- As another possible item for the Planning Meeting, it was also suggested (Fisher) that the organization seek a science speaker for the NARST Annual Meeting each year. Need to appeal to the science community.
- Nichols noted that use of electronic submission and review has opened up the review process for international members to participate more easily as strand coordinators and reviewers. Electronic submission enables timely exchange of information among international members who no longer have to rely on postal systems.
- Rodriguez alerted the committee to the plan for a technology room that will have 20 iBooks for alternative format presentations for strand 6. Some concern was expressed about setting aside one room with computers that will be there for the duration of the conference. This seems to limit use of the room for one group. Rodriguez assured Committee members that the room could be configured to allow other sessions to convene in the room without inconvenience.
- Nichols noted that another item to consider during the Planning Meeting is the size of Strand 4, teacher education. The strand is growing to an unmanageable size, so we must seek some way to divide the strand into two more manageable sections.
- Treagust raised the issue of the need for more rooms for the first night of the Annual Meeting for 2001. It was suggested that additional rooms be arranged at nearby hotels.

8. Publications committee Report (Lederman, for Czerniak)

- Asked that Item 4 in the printed Committee report regarding a plan for publishing policy statements be discussed during the Planning Meeting. Is there really a commitment to this; nothing is happening.
- Item 5 in the printed report; regarding the relationship between the JRST Editorial Board and the Publications Advisory Committee, was also discussed. It was suggested that consideration of restructuring is in order.
- Another issue for the Planning Meeting is the idea of a "publication plan." Abell suggested the Committee ask, "What is our vision about the role of publications in NARST?"
- Lederman presented one issue that was not included in the printed report in the Board Book.: Bill Holiday attempted to revive the *What research says to science teacher* series with NSTA. Shirley Ireton (NSTA Press) has rejected the proposal. Reportedly, NSTA has plans for a new publication agenda. They want to work with NARST, but not with this original proposal. A discussion piece has been sent to Abell by Ireton, and shared with Czerniak and Lederman. It was acknowledged

that NARST needs to gain more visibility, and NSTA needs help connecting teachers with research. NARST needs help with marketing.

- Treagust raised a point regarding the *NARST News*. The printed report of the Publications Committee asks the question as to whether the Editorial Board should preview each issue before it is uploaded onto the Web. It was noted that Treagust and Abell have been performing that function.

9. Executive Secretary Report (Haury)

- Haury discussed recent efforts in converting and updating the membership database to a newer computer platform using FileMaker as the database program. Trends in membership levels were noted in the printed report,
- The level of cash on hand was presented. NARST currently has \$54,147.07 in savings and \$325,889.79 in its operations account.
- Two issues were raised for Committee consideration:
 - There are pricing inconsistencies among publications, with similar items selling at very different prices.
 - The selling price of some publications does not cover the actual cost of production.
- There was a general discussion of issues and concerns about the publication dissemination and the potential relationship between ERIC and NARST.

Motion 5

Moved (Rodriguez) and seconded (Lynch) that we discontinue selling existing monographs, that we explore the possibilities of distributing through ERIC/CSMEE, and distributing electronically through the Web .

- Concern was expressed that the Publications Committee be involved in reviewing these ideas.

Motion 6

Move (Simmons) and seconded (Treagust) to table the motion 5 until the Board Planning Meeting. Vote: 7 in favor, 2 abstained.

- Haury suggested that the \$3 credit card fee be discontinued to simplify accounting procedures, provide an incentive for members to engage in electronic transactions, and to conform to standard marketing practices.

Motion 7

Moved (Treagust) and seconded (Rodriguez) that the three-dollar credit card fee. Vote: Carried unanimously

Adjourned at 10:20

Minutes prepared and submitted by David L. Haury.

2000 Fall Board of Directors Meeting
Minutes

National Association for Research in Science Teaching (NARST)
Drury Inn, St. Louis
October 13-14 2000

Session 2: October 14, 2000

Called to order at 8:37 AM by Abell

Members in Attendance

Sandra K. Abell	Board of Directors Member and President
Kathleen M. Fisher	Board of Directors Member
M. Gail Jones	Board of Directors Member
Norman G. Lederman	Board of Directors Member and President-Elect
Sharon J. Lynch	Board of Directors Member
Maureen M. McMahan	Board of Directors Member and NSTA Representative
Léonie J. Rennie	Board of Directors Member
Alberto Rodriguez	Board of Directors Member
Patricia E. Simmons	Board of Directors Member
David F. Treagust	Board of Directors Member and Past-President

Ex-Officio Members in attendance:

Charles Anderson	JRST Editor
David Haury	Executive Secretary

Guests:

Dale Baker	Incoming JRST Editor
------------	----------------------

Members not in Attendance:

Charlene M. Czerniak	Board of Directors Member
Diane Ebert-May	Board of Directors Member
Kathryn Scantlebury	Board of Directors Member
Nancy B. Songer	Board of Directors Member and Research Coordinator

Ex-Officio Members not in Attendance

James Gallagher	JRST Editor
-----------------	-------------

1. *JRST* Report (Anderson)

- It was noted that a larger than typical number of manuscripts were received between 4/1/1999 and 3/31/2000. With regard to publication decisions, approximately 20% of submitted manuscripts are found to not meet minimal standards or are not appropriate for publication in *JRST*; a much smaller percentage of manuscripts are accepted with few or minor revisions, and the vast majority of manuscripts are accepted with major revisions or rejected with an invitation to resubmit after major revisions. This situation means that *JRST* works with many authors over a long period and often through multiple revisions, so it is hard to predict how many manuscripts will be passed on to the incoming editorial team. Despite the increased workload, it was reported that the editors continue to provide authors with high quality decision letters that contain substantive feedback and recommendations for how to improve manuscripts.
- Two ongoing problems were described:

1. The time required to reach a decision on papers remains at 6-8 months.
 2. There continue to be variable standards among reviewers and variable quality in the reviews. To some extent this is the result of having many associate editors who have to rely increasingly on reviewers whom they do not know as the volume of manuscripts increases. This sometimes leads to reviews that are minimally informative or the acceptance of substandard manuscripts. The problem increases as the supply of "known" reviewers who understand the nature of the journal become "overloaded" and unable to accept more manuscripts to review.
- It was suggested that perhaps a workshop on the manuscript review process should be provided for potential reviewers by the editors of *JRST*; perhaps as a pre-session workshop at an upcoming NARST Annual Meeting (Abell).
 - The situation is to a large extent an "information management" problem in the sense that no one person (editor) is personally familiar with all the available reviewers. Reviewer performance also varies in terms of manuscript turn-around time, response time to requests, etc. (Anderson)
 - Abell suggested that if the performance of reviewers was more a matter of public record in *JRST* reports to the Board, rather than behind the scenes, reviewers might become more accountable fulfilling their responsibilities.
 - Lynch noted that there is also a particularly wide array of indicators regarding what constitutes qualitative research.
 - It was suggested that perhaps we need a series, perhaps in the *NARST News*, about what constitutes a good research report (Jones).
 - Fisher suggested that perhaps it would be helpful to contact previous editorial board members to request assistance in reviewing the backlog of manuscripts.
 - Fisher also noted that the *IJSE* editorial process seems to work well.
 - Abell noted that we don't seem to capitalize on the current structure we have with strand coordinators who could inform journal editors about who gets things done in a timely fashion or gives cogent feedback.
 - It was also noted (Anderson) that the priorities have been:
 1. Qualify of decision letters
 2. Managing manuscript flow
 3. Ensuring topical relevance
 The focus on these issues has resulted in quality of reviews not being attended to to the extent needed.
 - Treagust mentioned the positive and enriching nature of the professional experience and responsibilities that one associate editor has experienced in working with the current editors.
 - Anderson provided an update on several journal initiatives.
 - The proposed nominees to the *JRST* editorial board were discussed.
 - The process for developing the list of nominations was described.
 - Discussion was suspended for five minutes for Committee members to review the vita of proposed editorial board members

Motion 1

Moved (Jones) and seconded (Fisher) that the slate of nominees be accepted as presented.

Anderson provided additional information on nominees. Most are not well known to members, but distinguished themselves in experience as manuscript reviewers. They have been productive authors and bring expertise in diverse areas and cultural experience. The group brings new perspectives to the editorial board.

Vote: motion passed unanimously

- The upcoming Editorial transition was described.
 - The transition will begin at the end of the year when manuscripts begin flowing to the new editors rather than current editors. Current editors will continue working with manuscripts in the pipeline through 2001.
 - Manuscripts that will not be published by the final issue of *JRST* in 2001 will be passed on to new editorial team.
 - The budgetary implications for supporting transitions from editorial teams (and other positions) needs to be reviewed and updated. This is a topic for the Planning Meeting.
- Thanks expressed to Anderson and Gallagher for their work as *JRST* editors (Abell).
- The preparations being made by the incoming Editorial Board were presented (Baker):
 - The contextual setting for the new Editorial Board was described

Fiscal support for the Editorial Board is being provided by three groups; the Colleges of Arts & Sciences, Engineering, and Education. The three-way support is reflected in part by the slate of associate editors. Though perhaps a nontraditional group of people, the composition of the group fills a need to reflect the interests of the supporting units.

Additional nominees for associate editors are being proposed to bring a more traditional balance to the team. The proposed additions are:

Randy McGinnis (University of Maryland)
Julie Luft (University of Arizona)
Angela Barton (University of Texas)

Motion 2

Moved (Jones) and seconded (Lederman) that the full slate of associate editors be approved (the slate proposed at the previous meeting and these additions).

- The representation of cultural diversity was questioned (Rodriquez). Baker responded that though the individuals may not represent great diversity in ethnic identity, the content background and expertise of proposed group represent a broadening of diversity in terms of perspectives.
- Concern expressed that several of the associate editors are somewhat disconnected from the science education community (Fisher).
- Question was raised regarding how we get broader involvement of NARST membership (Lynch). How do we get the expertise and diversity of the organization involved and represented (cultural and linguistic diversity) in *JRST* and other organizational positions? Greater "face" validity is needed.

- Concern expressed that non-NARST members will be serving as associate editors (Simmons). A related concern is that there are not enough senior, experienced NARST members among the proposed associate editors.
- Baker expressed a willingness to accept suggestions for additional associate editors.
- Treagust suggested that there are some current associate editors who may wish to stay on to bring experience to the team.
- Baker noted that though the editorial team will be physically housed in the College of Education, Engineering will be providing the technology base for operations.
- Rodriguez asked if the editorial team would be open to expanding the diversity of the associate editors over time. Baker responded affirmatively.
- Anderson suggested that the most serious question about associate editors will emerge as manuscripts are rejected. Authors will question decisions and the consistency of decisions made.
- The recency of the earned degrees of some proposed associate editors was noted by Fisher.
- Abell reminded the group that we need to trust the judgment of the editors and give them the freedom to operate within the contextual circumstances of their academic setting.
- Fisher suggested a friendly amendment that the editors expand the diversity of the pool of associate editors over time. The amendment was accepted as a friendly amendment.

The motion on the floor is that the full slate of associate editors be approved and that the editors expand the diversity of the pool of associate editors over time.

Vote: Motion passed unanimously.

Treagust mentioned receiving a lengthy e-mail from a biologist who is concerned that his "terser" type of articles are typically rejected by the editors of *JRST*. Baker responded that the issue has been considered in the light of current practice in the nature of published articles. It was noted that the question hinges on whether rejection was based on content or format. Anderson commented that papers of this sort are typically rejected because they are of a trivial nature or out of synch with where the field is.

Break at 10:08 AM

Reconvened at 10:20 AM

2. International Committee Report (Lynch)

- Concern expressed that a person with international identity be involved as ICASE representative.
 - Avi Hofstein, a member of the International Committee, agreed to serve as ICASE representative.
 - Problems staffing the ICASE inquiry symposium at the 2001 Annual Meeting were discussed.
- A second ICASE symposium will focus on science teacher induction, based on the work of Senta Raison
 - The goal is to get international committee members talking with each other about what they are doing with science teacher induction around the world.

- It was suggested that the procedure for selection of the International Committee chair be reconsidered to include experience in international research.
- It was suggested that the International Committee meet twice during the upcoming annual meeting of NARST to allow consideration of structural issues (organizational structure).
- The question was raised as to whether there ought to be an International Committee since over a third of the NARST membership is international (Fisher). It was suggested that the topic may be discussed during the Planning Meeting.
- Anderson wondered if we have a mechanism for deciding which group will take the lead in discussing emerging concerns that cut across groups during the Planning Meeting. Abell suggested that we have to focus on priority issues during Planning Meeting due to limited time.

3. *JRST Awards Committee Report (Jones)*

- Report inadvertently omitted from the Board Book.
- Nothing was added beyond report that was submitted; all is proceeding well.

4. *Outstanding Doctoral Dissertation Award Committee (Rennie)*

- This report was also inadvertently omitted from the Board Book and will be forwarded to Board Members following the meeting. Haury had the report in electronic form and read the report to the Committee.
- Rennie explained why faxed proposals were not accepted given the need to photocopy proposals: 1) reproductions are not always clear, and there is concern about bias against a proposal based on copy quality; 2) there is an investment of time in making the dissertations anonymous; and 3) this places a burden of time and expense on the award committee chair.
- Issues to be considered are timeliness of submissions, mode of submissions, and fairness or procedures.
- There was a general discussion of the need to standardize protocols for submitting text to committees in electronic formats. There should be a central location where all nominations and proposals are submitted. Perhaps we should review examples of electronic submission forms being successfully used by other organizations.

5. *Early Career Research Award Committee Report (Fisher)*

- Procedures and rating sheet have been refined.

6. *Membership Committee Report (Fisher)*

- A question was raised (Lynch) whether part of the mentor-mentee program could be focused on language issues. The history of the mentor-mentee program was reviewed.
- It was that "new researchers" at the last NARST conference were not young in the profession, but new to the research dimension of the profession, either as a result of changes in institutional expectations or changes in responsibilities.
- It was suggested that NARST consider providing a support system for members who are preparing portfolios for the tenure and promotion process, perhaps reviewing paper (Baker). Anderson

expressed reluctance in providing a mentorship role when processes are specific to institutional policy and politics.

- The New Generation Ad Hoc Committee has institutionalized 3 sessions at the annual meeting. Since their charge has been met, the ad hoc committee was not renewed. Abell charged the Membership Committee to take over the functions of the ad hoc by coordinating the annual meeting sessions for new researchers. Fisher will work with McMahon on this transition.

7. Distinguished Contributions Award Committee Report (Simmons)

- An amendment to the submitted report was distributed.
- CVs of final 8 nominees were distributed.

Motion 3

Moved (Simmons) and seconded (Lederman) that the Board approve the slate so that the committee can solicit full CVs and letters of support for nominees.

Vote; Passed unanimously.

- Some discussion and concern expressed regarding individuals who are repeatedly nominated but never selected for an award.
- Concern also expressed that only one person is selected for recognition, but there are several in the pool who are worthy of recognition.
- Another concern was expressed regarding the type of research that is being recognized. There are various ways of impacting through research beyond the classical forms of research.
- There was a question of whether all this attention to awards is worth the effort (Anderson); is it the way we should be spending so much of our professional time and energy? This is another issue to be considered during the Planning Meeting.
- After much discussion, it was decided that the current practice will be continued and we will continue to select one recipient for the award.

Break for lunch at 11:55 AM

Reconvened at 1:20 PM

8. The outcome of a lunchtime discussion regarding the *JRST* budget for the Baker team was presented (Treagust, Abell, Lederman, Anderson, Baker, Haury).

- The agreement with the Michigan group is completed financially.
- Baker and Piburn are appointed to begin Jan 1, 2001.
- There will be three months overlap in support of the two editorial teams at a cost of \$6,000.
- It was also proposed that NARST support a secretarial visit from the Arizona group to the Michigan group for purposes of orientation.
- A five-year Arizona budget with yearly increases of \$1,000 was proposed. To provide context, it was noted that no support has yet been provided by NARST for startup costs. Arizona State University is providing a substantial amount of support. The budget for the previous editorial team progressed from 14,000 to 19,000 to 24,000 over their 3-year term.

- It was noted that there will be no immediate budgetary impact in that the funding for the two different editorial groups will be taken from two different fiscal years. (Haury)

Motion 4

Moved (Treagust) and seconded (Lederman) that we approve the 5-year budget proposed by the Arizona group effective January 1, 2001.

Vote: passed unanimously

Motion 5

Moved (Lynch) and seconded (Rodriguez) that NARST provide up to \$1,000 to support travel for a secretarial exchange between the Michigan and Arizona editorial groups.

Vote: Passed unanimously

- The Broad requested that a plaque be provided for Jean Beland in recognition for her service as JRST secretary

9. Equity Committee Report (Rodriquez)

- The Committee was referred to the motion presented in section 19 of the Board Book. It was decided to consider each point of the original motion separately.

Motion 6

Moved (Rodriguez) and seconded (Lynch) that point 1 be approved.

1. Be it resolved (BIR) that gender, ethnic background, areas of research, professional rank, and other important aspects that could ensure a diversity of perspectives be considered when appointing members to awards committees. Given that usually three members rotate out of committees each year, every effort should be made to strike a balance of representation as soon as possible starting during the NARST meeting of 2001.

- Abell described how committee members were identified and selected, with attempts to involve broad representation and participation.
- The membership form should provide an opportunity to indicate interests in serving on specific committees. Abell charged Haury to revise the membership form accordingly.

Vote: Passed unanimously

Motion 7

Moved (Rodriguez) and seconded (Lynch) that point 2 be approved.

2. BIR that gender, ethnic background, areas of research, professional rank, and other important aspects that could ensure a diversity of perspectives be considered in the selection of awards by all committees. It will be the responsibility of each award committee chair to include a comment to this effect in the selection protocols and in all announcements inviting submissions. In this way, more members may feel encouraged to submit their work for review, and committee members will be reminded that diversity of perspectives, creativity, and critical analysis of dominant paradigms are welcome.

- Concern was expressed that this could not occur or apply within the context of some award committees. The information regarding identity of many awards is not available; blind review prohibits knowing if this is being attended to. It was also noted that when these additional factors are part of the consideration, the nature of the award and award process is necessarily altered.

- A differentiation was made between the aim to increase the diversity of the pool versus the selection process itself (*i.e.*, solicitation versus selection process).
- It was noted that the current wording of point 2 seems to mix the selection and solicitation processes.
- The motion was altered to refer only to non-blind reviews and that "selection of awards by all committees" was rephrased to read: "selection of awards by the Early Career Research Award Committee and the Distinguished Contributions Award Committee."
- A major concern was expressed about these criteria having an influence on the selection of award winners; it is seen as compromising the nature of the award. Blind review prevents us from forming biases on the basis of irrelevant information
- Rennie summarized the three issues discussed:
 - Diversity of representation on committees
 - Selection criteria that enable consideration of diverse nominees
 - Solicitation of nominees

Vote; Not passed (one in favor (Rodriguez) and 6 opposed. No abstentions.)

Motion 8

Moved (Rodriguez) and seconded (Lynch) that point 3 be approved.

3. BIR that the criteria used for the various awards be consistent and that a higher number of points be awarded for creativity and for papers that provide a critical analysis of dominant paradigms. For example, the NARST Outstanding Paper Award Committee has a rating scale with six categories: significance of the study, conceptual/theoretical framework, research approach, conclusions, craftsmanship/communication, and creativity. Each of these categories is worth 10 points. The JRST Paper Award Committees has a similar rating scale. It is suggested that the other award committees model their rating scales after the scales used by these committees. It is also suggested that the categories for creativity and theoretical framework be doubled in points to encourage the submission of innovative and critical studies. Be it further resolved that language that encourages compliance with dominant paradigms be revised. For example, the JRST Award rating sheet has a question under the "background" category that states, "How adequate is the presentation of related theory and relevant literature?" Some critical studies may be perceived as inadequate and without relevant literature because these studies may be critiquing the existing literature and in fact breaking new ground.

- Concerned expressed by some that creativity is hard to define or recognize depending on one's own perspective.
- Several agreed to the expressed concern that awards committees tend to be conservative and not recognize or reward creative, potentially fruitful ideas that do not represent the prevailing orthodoxy. (Anderson)
- One problem with the motion is that it is too prescriptive (Lynch) though everyone shares the concern. The proposed solution to the problem is the issue of concern.
- Two points to be considered in view of the motion:
 - Do we want consistency across awards committees?
 - Does the concern warrant such a prescriptive solution?
- The motion was withdrawn by Rodriguez to consider a committee charge in this matter.

- It was suggested that Rodriguez develop a potential charge to committee chairs and forward that to Abell for consideration.
- It was suggested that the Board needs to address the idea that committees should be expected to have consistent criteria and procedures.

Break 3:00 PM

Reconvene 3:15 PM

- Further discussion considering the statement that there should be consistency in criteria to be used for awards, consistency in rating scales used, forms, and procedures.
- It was suggested that the issue is really one of "explicitness and access" (Lynch) There is a need to be explicit to members about criteria.
- Treagust charged the Policy Advisory Committee to review awards procedures to consider issues of consistency across committees and alignment with the mission statement of NARST.
- The Board charged the Policy Advisory Committee to examine award criteria for consistency and have the criteria updated by the Spring Board meeting. The Committee is further charged to consider the issues raised by Point 4.

4. BIR that each award committee include specific timelines for the submission and selection of the awards in a manner similar to that used by the JRST Paper Award Committee. Clear timelines help ensure that all members have an equal chance to submit their work and/or a smoother and fair evaluation process.

- Issues raised by Point 5 have been considered before, so award committee chairs are charged to consider the ramifications for their individual committees and report back on the issues of Point 5 to the Board at the Spring meeting.

5. BIR that all Chairs send thank you letters to all runner-ups to recognize the fact that their work is also meritorious, and that the work they put into preparing their evaluation packet was appreciated.

Motion 9

Moved (Rodriguez) and seconded (Lynch) that Point 6 be approved.

6. BIR that no award be given to the same member within a period of three years. In this way, more opportunities are provided to highlight and recognize the work of others member

- Speaking against the motion, Treagust pointed out that we are trying to select the best piece of work in the year presented. The association should want to be known for selecting the best piece of work.
- The question was asked if people should be limited in how often they can receive a particular award.
- The issue of coauthorship was raised and whether the practice would be unfair to coauthors because one of the coauthors had received the award previously.
- How would this criterion work for awards in which there is blind review?

Vote : Passed (5 in favor, 2 against, 1 abstention)

- The question arose again over the eligibility of coauthored papers and coauthors who become ineligible because the paper includes an author who had previously won the award. Abell clarified that the motion, as passed, made previous recipients, and thus their coauthors, ineligible in subsequent years.

Motion 10

Move (Jones) and seconded (Rennie) to rescind Motion 9.

- It was suggested that each committee consider this matter.
- There was some confusion about the effect of Motion 9 on coauthors.
- The main concern was that in the attempt to make things more equitable for some members, the motion made the situation less equitable for many.

Vote Passed (5 in favor, 1 against, and 2 abstentions)

- Abell charged the chairs of the NARST and JRST awards committees to have their committees consider this issue and report back to the Board with their recommendations.
- It was suggested that one option for the two chairs of the NARST and JRST awards committees to consider is that the same member cannot be first author for the same award in succeeding years.
- Abell charged committee chairs to consider Point 7 with their committees to make sure there is a diverse pool of candidates.

7. BIR that all Chairs and committee members explore and implement ways to increase the diversity of perspectives and backgrounds within their pool of nominees.

Motion 11

Moved (Rodriguez) and seconded (Tregust) that the first sentence of Point 8 be approved.

8. BIR that a revised version of the NARST Procedures and Schedules Manual be posted permanently on the NARST web page.

Vote: Motion passed unanimously

- The remainder of point 8 to be charged to the Membership Committee to consider ways of keeping the membership informed, and report back to the Board at the second Spring meeting..

8b. Be it further resolved that at least twice a year, a note be posted in the NARST Newsletter to remind members to become familiar with the submission and selection process of the various awards, as well as with other policies guiding the organization.

- The Executive Secretary is charged with getting the appropriate notices on the Web site.
- In response to Points 9 and 10, committees are encouraged to communicate with the Policy Advisory Committee and the Equity Committee before bringing the issues back to the Board.

10. NSTA Liaison Report (McMahon)

- The nature of the NSTA reorganization was described.
- The need for NSTA to take the lead in professional development was mentioned.
- NARST/NSTA Press will be on the agenda of the next NSTA Board meeting in one month's time.

- McMahon announced that she is now chair of the NSTA Research Committee.
- It was noted that few NARST members are involved on NSTA committees.
- Members of the Board were asked if anyone will be at NSTA this year and would be interested in serving on the Research Committee. Jones volunteered if no one else is able to go.

11. Printed Reports submitted by committees not represented were reviewed.

Meeting adjourned at 5:30 PM.

Minutes prepared and submitted by David L. Haury

April 2001

Abell, Sandra

From: David L. Haury [haury.2@osu.edu]
Sent: Wednesday, March 20, 2002 12:20 AM
To: ledermann@iit.edu; Abell, Sandra
Subject: NARST minutes part 2

<x-flowed>
Norm and Sandi,

The NARST minutes for the meeting on 3/29/01 are attached. Here are a couple of details that I am uncertain about:

1. I do not have the wording for motions 7A and 7B in the Financial Advisory Committee section. Diane Ebert-May had these written down and handed them out to folks, but I never received a copy. If either of you have a copy of those comments, please insert the wording in the appropriate place.
2. For some reason I did not record the time when we adjourned, but I know we stopped when the food arrived. If either of you have a note regarding the actual time of adjournment, please correct these notes.

One last thing. I noticed on the notes for 3/25/01 that I do not have Johnathan Osborne listed as a guest, but it seems to me that he was there. If either of you know for certain that he was there on 3/25, please add his name to the list of guests.

Thanks, this should pretty much do it, finally. I do have a couple small financial details to forward to you this week, and the final amount of funds remaining at OSU that I will be transferring to Missouri. I also still have some old files that I will get in the mail to Marilyn this week.

Let me know if I am forgetting anything.

David
--

* David L. Haury (614) 292-6717 (voice) *
 * Director, ERIC/CSMEE (614) 292-0263 (fax) *
 * 1929 Kenny Road (800) 276-0462 *
 * Columbus, OH 43210-1080 haury.2@osu.edu *

 * ERIC Clearinghouse for Science, Mathematics, *
 * and Environmental Education *
 * <http://www.ericse.org> *

</x-flowed>



NARSTminutes032901
.rtf

2001 Spring Board of Directors Meeting
Minutes
(Pending Board Approval)

National Association for Research in Science Teaching (NARST)
Hyatt Regency, St. Louis
March 25 & 29, 2001

Session 1: March 25

Called to order at 1:18 p.m. by Abell

Members in Attendance

Sandra K. Abell	President
Charlene M. Czerniak	
Diane Ebert-May	
Kathleen M. Fisher	
M. Gail Jones	
Norman G. Lederman	President-Elect
Sharon J. Lynch	
Maureen M. McMahon	NSTA Representative
Léonie J. Rennie	
Alberto Rodriguez	
Kathryn Scantlebury	
Patricia E. Simmons	
Nancy B. Songer	Research Coordinator
David F. Treagust	Past-President

Ex-Officio Members:

Dale Baker	JRST Co-Editor
David Haurly	Executive Secretary
Michael Piburn	JRST Co-Editor

Guests:

William W. Cobern	Incoming Board Member
Frank E. Crawley	Incoming Research Coordinator
James Gallagher	Former JRST Editor, arrived at 3:40 p.m.
J. Randy McGinnis	Incoming Board Member
Cheryl L. Mason	Incoming President-Elect
Kim Nichols	Annual Meeting Coordinator
David B. Zandvliet	Incoming Annual Meeting Coordinator and Director of Electronic Services

Members not in Attendance:

None

1. Greetings and Introductions

Abell introduced the newly elected Board Members and David B. Zandvliet of Simon Fraser University, the incoming Annual Meeting Coordinator and Director of Electronic Services. Congratulations and appreciation for their willingness to serve NARST were expressed.

2. Agenda Approval

Motion 1

It was moved (Fisher) and seconded (Treagust) that the printed agenda be approved. Motion 1 passed unanimously

3. Order of agenda revised to allow for printing of the minutes of the previous Board Meeting.

4. President's Report

Members took a few minutes read the submitted report prior to discussion.

Board members discussed plans for the 2004 NARST Annual Meeting. It was noted that if we were to follow the regular pattern, we would be typically be meeting in conjunction with AERA in 2004 (Treagust). Others mentioned that we have the option of not meeting in conjunction with another conference (Simmons), and that the level of attendance seems more a function of location than which organization we meet with. Treagust recommended meeting after AERA, but concerns were raised about meeting in the middle of the week. Another option would be to meet in conjunction with the conference of another association (Simmons). Scantlebury noted that April 3-5 avoids religious holidays but overlaps with AERA. Fisher proposed that NARST meet at the end of March in Vancouver, allowing members to also to participate fully in AERA and NSTA. Rennie noted that we need to meet in the same town if members are to benefit from meeting in conjunction with another conference.

Motion 2

It was moved (Scantlebury) and seconded (Songer) that the 2004 NARST Annual Meeting be held on April 3-5 in San Francisco.

Motion passed, 10 in favor, 1 abstention

Rodriguez offered a friendly amendment that the conference venue be considered separately from the date. Songer suggested that neighboring cities might be considered. Simmons and Rennie suggested that since the motion passed, we consider having a second option.

Motion 3

It was moved (Simmons) and seconded (Rodriguez) that Vancouver be considered as an alternative venue and that alternative dates, such as April 2-4, be considered.
Motion passed unanimously

Abell reminded Board Members that updates on committee descriptions are needed for the NARST Procedures and Schedules document and for public review on the NARST Website. Songer requested that a model of what is wanted be provided so Board members can use it to consider their own descriptions.

The Committees attention was directed to Issue 3B in the President's Report, regarding conducting business electronically. Policies are needed on how to conduct business electronically using e-mail and the Web. Songer noted that research suggests that asynchronous communication has been shown to be less than optimal for such decision-making.

Questions were raised about providing travel support for Nichols and helpers to attend the meeting. It was noted by Haury that lodging had been provided through use of complimentary rooms and a portion of the travel expenses allocated to the Executive Secretary's office at The Ohio State University. Further action will be taken after review of the budget.

During a brief discussion about Awards Luncheon, Board Members were asked to sit at reserved tables. Awards committee chairs were asked to be succinct in making comments for the sake of efficiency.

4. The minutes of the previous Fall Board Meeting were presented for approval or correction.

Three grammatical corrections were requested by Abell.

Motion 4

It was moved (Rennie) and seconded (Treagust) that the minutes be approved as amended.

Motion passed unanimously

5. Past President's Report

Members individually reviewed the printed report for a few minutes.

Treagust discussed progress in updating the *NARST Procedures and Schedules* handbook.

6. President-Elect's Report

Members individually reviewed the printed report for a few minutes.

Lederman questions whether membership in CSSP is valuable enough to warrant the expense. Meetings are interesting, but if the purpose is to increase presence on the Hill, the organization speaks for science, not education. Lederman suggests that NARST is more likely to get the advocacy desired through other affiliations. Discussions about science education seem somewhat antiquated.

Lederman referred to the submitted report and noted two concerns: The nature of *ad hoc* committees and the appointment of strands coordinators. It was noted that no new *ad hoc* have been added this year, but an action plan for the Informal Science Education Committee will be developed during this Annual Meeting. Lederman also expressed concerns regarding the method of selecting strand coordinators and the need for guidelines for their activities.

Rodriguez raised a question about how issues related to representation of diverse populations were addressed on Committees. Songer expressed concern that the current Research Committee does not represent diverse research paradigms or communities.

Ways of increasing the number of candidates for committee assignments were discussed. It was suggested that both the recommendations of outgoing committee chairs and those who have volunteered need to be fully considered.

Motion 5

It was moved (Songer) and seconded (Rodriguez) that the Board establish a more official procedure for appointing members to committees, and that the process include discussions between the President-Elect and committee chairs.

Fisher expressed concern that this procedure would place an additional burden on the President-Elect to provide a lot of individual attention to many members.

Songer suggested that volunteers and nominees submit CVs for the President-Elect to review.

Scantlebury raised a question about how the Board can remove members from committee assignments.

Motion 5 was withdrawn

The Policy Committee was charged to develop a procedure for selecting new committee members and removing committee members, and that a draft of the proposed procedure be reviewed by the Equity Committee.

New Board Members were appointed to committees as follows:

Cobern - Distinguished Contributions through Research Award Committee

Crawley - Research Committee
McGinnis - Early Career Research Award Committee & Membership Committee
Osborne - JRST Awards Committee

Break: 3:30 p.m.

Reconvened: 3:40 p.m.

7. JRST Editors' Report

A brief overview of manuscript status was provided by Gallagher. A chart, dated 3/22/01, was provided, showing the status of all manuscripts received between October 1, 1998 and December 31, 2000. A preview of upcoming issues for Volume 38 of *JRST* was also provided.

Gallagher expressed his pleasure both in having the opportunity to manage the journal and the opportunity to turn it over to the new Co-Editors. He also mentioned that the biggest holdup in moving manuscripts through the editorial process was getting reviews back and getting decision letters out to authors.

Gallagher and Anderson were commended for their active role in giving the *Journal* direction and in increasing quality.

The printed report from Baker and Piburn was reviewed, and both thanked Gallagher and Anderson for their help during the transition period.

8. Executive Secretary's Report

Haury reported that there are currently 1,057 members, distributed as follows:

Regular members: 828

Student members: 204

Emeritus members that subscribe to the *Journal*: 25

Members were provided a spreadsheet showing the budget for 2000, and the proposed budget for year 2001. It was recommended that the funds allocated in previous years to editing be removed from the budget.

9. Program Committee Report

Nichols noted that Strand 4 has grown to an unwieldy size. It was also noted that interactive sessions are becoming popular, and there is a need to reconsider session formats. There are few requests for Round Tables and Discussion sessions, and Nichols recommended that these formats be discontinued.

Lederman described the focus of presentations to be provided by Plenary speakers, and he expressed his thanks to Haury for conference arrangements, Simmons for

arranging the social event, strand coordinators, and Nichols for smooth running operation.

10. Standing Committee Reports

Policy Advisory Committee (Treagust)

Discussion of NARST Procedures and Schedules; Treagust described progress and the main issues. Descriptions are still needed for President, President-Elect, and Past Presidents responsibilities. Also discussed were the guidelines for Strand coordinators and the "Guidelines for Strand Coordinators" provided by Nichols.

Financial Advisory Committee (Ebert-May)

Discussion postponed until Thursday session

Publications Advisory Committee Report (Czerniak)

Members individually reviewed the printed report for a few minutes

Attention was directed to Item 8, and members were asked if the Publications Advisory Committee should review the *NARST News*: No interest in doing this was expressed; rather it was the consensus of opinion to trust the editors.

A question was raised regarding the extent to which items could be added to the electronic version of the *Newsletter* after the printed version has been distributed. It was the wish of the Board to have an identical version of the newsletter online, and then add late postings.

It was suggested that the membership form could have check boxes where members could indicate interest in continuing to receive a printed version of the newsletter rather than an electronic. It was the sense of the Board that there may no longer be a need for a printed form of the newsletter. The committee was charged by Abell to consider whether a printed version of the *NARST News* is really needed and to bring a recommendation to the Board.

Regarding Item 5, a question was raised as to whether the Director/Coordinator of Publications is to be an assigned chair or appointed chair. Discussion was postponed until next meeting when forward planning is considered.

Elections Committee (Treagust)

No further discussion

International Committee (Lynch)

Two international symposia are planned for this meeting (ICASE symposium and NCISE symposium)

It was decided that conference badges were to indicate international membership (dots)

Given the increased size of the international community within NARST, a major issue is whether the International Committee is to take on a bigger role, or if the international dimension should become integrated across committees and activities.

JRST Award Committee (Jones)

Members individually reviewed the printed report;

Rodriguez asked when the Board might hear an update on the charge from October Board Meeting regarding creativity concerns. Jones indicated that the discussion will take place during the upcoming committee meetings..

NARST Outstanding Paper Award Committee (Scantlebury)

Members individually reviewed the printed report

There was no further discussion by Committee members except a comment about the frustration caused by committee members who do not participate in the process.

Rodriguez expressed concern that there seems to have been no follow up on a charge related to the Equity Committee guidelines presented at the October Board Meeting.

Distinguished Contributions Through Research Award Committee (Simmons)

Members individually reviewed the printed report

There was no further discussion

Early Career Research Award Committee (Fisher)

Members individually reviewed the printed report

There was no further discussion

Fisher expressed concern about the difficulty of differentiating merit among well deserving candidates. Songer asked if revising the criteria would help..

Outstanding Doctoral Dissertation Award Committee (Rennie)

Members individually reviewed the printed report;

Rennie described here experience with a "dissatisfied loser" this year who requested feedback.

Outstanding Master's Research Award Committee (Ebert-May)

No award was given this year because there were no applications meriting consideration.

Equity Committee (Rodriguez)

No report will be forthcoming until the committee has met.

Membership Committee (Fisher)

Fisher noted that the heading "Membership Committee Protocols" in the printed report should read "Membership Committee Procedures."

For this conference, 23 Mentor-Mentee pairs have been formed.

Fisher reported that the Committee took on the responsibility of the New Generation session, and new members did an outstanding job.

11. Special Committee Reports

National Science Teachers Association Representation (McMahon)

McMahon handed out a copy of the plan for an NSTA-NARST joint publication development.

Motion 6

It was moved (McMahon) and seconded (Jones) that the NARST Board accept the general infrastructure for joint publication of a NARST-NSTA research-oriented publication as described in the attached schematics.

Motion passed unanimously

It was noted that the Board will need to have the Research and Publications Advisory Committees assume responsibility to work out the detailed specifications for the publication

The second motion contained in the report of the NSTA representative to the NARST Board of Directors was presented. No formal motion was made or vote taken; the Committee was charged to follow through.

Treagust. suggested that an invitation be placed on the NARST Listserv for proposals.

International Council of Associations for Science Education Representation

A report will be forthcoming (Lynch) after the meeting this week.

12. Other Old Business

No other old business raised.

13. New business

No new business raised.

14. Time and Location of 2001 Fall Board Meeting

The October Board Meeting is tentatively scheduled for October 12-13, with departure on Sunday. The meeting will start late on Friday and continue through Saturday. The dates will be checked and a final decision will be made at the next session of the Board Meeting on Thursday. The October meeting will be held at the Hyatt in New Orleans

15. Adjournment, 5:15 p.m.

2001 Spring Board of Directors Meeting
Minutes
(Pending Board Approval)

National Association for Research in Science Teaching (NARST)
Hyatt Regency, St. Louis
March 25 & 29, 2001

Session 2: March 29

Meeting called to order at 8:45 a.m. by Lederman

Members in Attendance

Sandra K. Abell	Past-President
William W. Cobern	
Frank E. Crawley	Research Coordinator
Charlene M. Czerniak	
Diane Ebert-May	
Norman G. Lederman	President
Sharon J. Lynch	
Cheryl L. Mason	President-Elect
J. Randy McGinnis	
Maureen M. McMahon	NSTA Representative
Johnathan Osborne	
Léonie J. Rennie	
Alberto Rodriguez	
Kathryn Scantlebury	

Ex-Officio Members:

Dale Baker	JRST Co-Editor
David Haury	Executive Secretary
Michael Piburn	JRST Co-Editor
David B. Zandvliet	Annual Meeting Coordinator and Director of Electronic Services

Guests:

None

Members not in Attendance:

None

1. Welcome to New Members

Lederman welcomed new members to the Board and asked for approval of the revised agenda.

Motion 1

It was moved (Abell) and seconded (McGinnis) that the revised agenda be approved.
Motion passed unanimously

Lederman requested some freedom in changing the agenda sequence to accommodate individual travel schedules. The Board accepted the request for flexibility.

2. Approval of Minutes

There were no minutes available to approve.

3. Report of Annual Meeting Coordinator

Plans to move the technology support from the University of Georgia to Simon Fraser University were discussed by Zandvliet. The intention is to strongly encourage electronic submission of proposals during the upcoming year.

Proposals for the 2004 Annual Meeting will be developed for both San Francisco and Vancouver, and consideration will be given as to which site will be designated as the first choice.

The composition of strands was discussed, both the possibility of splitting Strand 4, and the possibility of adding additional strands. Abell suggested that there may be some recruiting advantage to adding strands and increasing a sense of community as the organization grows.

Motion 2

It was moved (Abell) and seconded (Rennie) that an environmental education strand be added to the Annual Meeting strands.

Rodriguez opposed the motion because there is no existing procedure for adding or dropping strands. After discussion, Rodriguez then moved (seconded by Lynch) to table the motion until the October Board meeting.

The motion to table Motion 2 passed unanimously.

Lederman charged the Program Committee to create a policy for adding and dropping strands for consideration at the upcoming October Board meeting.

4. President's Report

Lederman recommended that Barbara Crawford be appointed to the Early Career Research Award Committee to fill the position vacated by Frank Crawley.

Motion 3

It was moved (Abell) and seconded (McGinnis) that the recommendation be approved. Motion passed unanimously.

It was noted by Lederman that there had been lots of positive feedback about the venue and sessions of the Annual Meeting, but there is a need to reconsider the itinerary for the three days of the conference. Issues include the following:

- Three plenary speakers versus two.
- The level of support (honorarium) for plenary speakers.

- The early morning (7:00 a.m.) meeting times for committees.
- Past Presidents Reception not well attended by Board members

It was also noted by Lederman that the Board must move quickly in considering revisions of the administrative structure for NARST, and there is a need to improve the record on getting sub-committee reports from the Planning Retreat.

It was noted that the publishing contract with Wiley is coming up for renewal this year.

Mason recommended that everyone on the Election slate (nominees) be advised of dates for meetings they are expected to attend if they are elected. This would enable them to arrange travel in advance while awaiting the outcome of elections. A master list of schedules and cost expectations (out-of-pocket expenses) will be prepared by Lederman for the October Board Meeting.

The October Board Meeting is scheduled for the weekend of October 12-14, beginning Friday evening and continuing for the full day on Saturday.

It was suggested by Abell that the Board may need a policy for removing people from the Board or committees if they do not attend meetings or perform their duties. It needs to be emphasized that appointment to a committee or election is an "office" rather than an "honor." Expectations need to be communicated to potential candidates before they decide to run or volunteer.

Rodriguez reported that the same issue was raised at the Equity Committee meeting, and it was suggested that when someone is nominated for the Board, there should be some prior 6.

5. Past President's Report

Plans for the Policy Advisory Committee include:

- Continuing update of *NARST Procedures and Schedules* document.
- Develop an affiliate policy along the lines of one by AETS.
- Develop a policy for adding and deleting strands.

Lederman charged the Policy Advisory Committee to develop a policy for removing Board and committee members for negligence of duties.

Rodriguez reminded the Board that consistent policy across committees must also be developed for selecting award winners.

Abell reminded Board Members that NARST does not have a "policy" document, but a "procedures" document.

Crawley wondered if there could be an intermediate step for removing Board and committee members, such as having alternates, etc.

Plans for the Election Committee include:

- Begin the process of searching for candidates for President-Elect.

- Develop a combined pool of committee members since 1993 to identify potential Board Member candidates.

6. Equity Committee Report

It was reported by Rodriguez that the Committee is concerned that suggested procedures have not been followed in past two previous elections. It is requested that the need for nominations be advertised and that expectations be communicated to the membership and potential candidates.

It was suggested that the slate of candidates this past year seemed quite balanced in terms of diversity issues (Lynch). It seemed obvious that someone had paid attention to diversity concerns.

The Board needs to make public to the membership (Abell, Rodriguez) that issues of diversity are being considered.

McMahon suggested that the responsibilities of the Board and committees be made available on the NARST Website.

7. President-Elect's Report

Mason asked that in future the minutes from the first session of the Board Meeting at the Annual Meeting be prepared for approval during the second session of the Board Meeting.

The membership of the Program Committee was discussed.

Motion 4

It was moved (Mason) and seconded (McGinnis) that Czerniak and Cobern represent the Board on the Program Committee, along with Haury and Zandvliet.

The motion passed unanimously

Paul Joslin, the former NARST Historian, will be contacted in response to a question about past award winners raised by Vic Mayer.

Proposals regarding strand 4 were discussed.

Motion 5

It was moved (Abell) and seconded (Osborne) that strand 4 be split into preservice and inservice sections (strands 4A and 4B).

The motion passed unanimously.

8. Executive Secretary's Report

In response to concerns about financial reserves, Haury described the nature of the current cash management account with American Express. Some Board members expressed concern that the Executive Secretary established a portfolio that included annuities and stock

investments without seeking approval from the Board. Decisions regarding the account will be considered at the next Board Meeting.

The budget presented during the Board Meeting of March 25, 2001 had been revised as requested.

Motion 6

It was moved (Abell) and seconded (Osborne) that the budget presented by the Executive Secretary be approved as amended.

The motion passed unanimously.

9. Standing Committee Reports

Publications Advisory Committee

Czerniak reported that a call for proposals for a new monograph will be forthcoming.

The following issues have been raised by the Committee:

- The need for a policy writing team or some other means for moving ahead on policy issues
- The need for historical information regarding the sales of monographs.
- The value of the *NARST News* is in question. It is suggested that it be developed into a real newsletter, or be dropped. The purpose of the *NARST News* is in question.

Abell suggested that the Publications Advisory Committee proposed a way to reshape the newsletter. The Committee should ask the question, "What should it be like?"

There is a question as to whether the advertisements in the newsletter should conform to a particular format; it does not seem to be a concern to the Committee.

Board members were asked if they had any general concerns with Wiley as the publisher of the *Journal* since the contract is up for renewal this year.

Abell asked if the membership needs to be informed about online access to the *Journal*.

It was noted that Taylor & Francis will be sending a notice to members regarding their special discount offer.

If possible, Haury will have the new Wiley contract available for review at the upcoming Fall Board Meeting.

Financial Advisory Committee

Two printed motions were presented for consideration.

Motion 7A

It was moved (Ebert-May) and seconded (Abell) that proposal A be approved

The motion did not pass; 1 for, 7 opposed.

Motion 7B

It was moved (Ebert-May) and seconded (Abell) that proposal B be approved.

The motion passed unanimously.

Research Committee

A printed report will be forwarded to members.

International Committee

It was reported that the two international symposia organized for the Annual Meeting were well attended.

It was recommended that three symposia be organized for the 2002 Annual Meeting, as well as an international poster session. It was also suggested that a "global" section be included on the Website. It was decided to not have a designated international member on the Board.

It was noted that the new ICASE president is Robin Groves, and it was suggested that a representative from the NARST Board attend the executive meeting of ICASE every three years.

JRST Award Committee

Concern expressed regarding diversity of award recipients.

NARST Outstanding Paper Award Committee

Concern expressed regarding low attendance at Committee meeting by Committee members.

Early Career Research Award Committee

No report

Outstanding Doctoral Research Award Committee

It was reported that the Committee met, members reviewed procedures, and everyone seemed with procedures as they are.

Membership Committee

It was reported that the meeting this week was well attended, and that discussion focused on responsiveness to members and ways to work with the Program Committee to facilitate

the interactions with new members. Ways to facilitate recruitment efforts were also discussed.

The Committee plans to contact teacher associations this upcoming year .

10. The Board adjourned for lunch at noon.

October 2001

**National Association for Research in Science Teaching
2001 Fall Board of Directors Meeting
Hyatt Regency New Orleans
New Orleans, LA**

**Minutes of the Meeting
October 19, 2001**

Meeting called to order at 5:50 PM by Lederman.

Members in attendance:

Norman Lederman	President
Cheryl Mason	President-Elect
Sandra Abell	Past-President
Bill Cobern	Board of Directors
Frank Crawley	Board of Directors
Charlene Czerniak	Board of Directors
Diane Ebert-May	Board of Directors
Sharon Lynch	Board of Directors
Randy McGinnis	Board of Directors
Jonathan Osborne	Board of Directors
Alberto Rodriguez	Board of Directors
Kate Scantlebury	Board of Directors

Ex-Officio Members:

Dale Baker	JRST Editor
John Tillotson	Interim Executive Secretary
David Zandvliet	Annual Meeting Coordinator

1. Agenda Adjustments

Norm Lederman asked to make two changes in the order of the agenda and the members present agreed to the changes without requiring a motion.

Lederman recognized David Zandvliet wishing him a happy 39th birthday today.

Lederman asked each of the individuals present to introduce themselves and state their institutional affiliation.

2. Minutes of Prior NARST Board Meeting- Norm Lederman

Lederman reviewed the minutes of the last NARST Board Meeting from March 2001 that were sent in skeleton format by previous Executive Secretary, David Haury, earlier in the day. The document contained only a listing of the motions made and the actions taken at the previous NARST Board meeting. Scantlebury suggested a vote on accepting the minutes of the March 2001 NARST Board Meeting be tabled until the following day to see if any additional information could be provided.

Mason thanked Board members for sending Board Reports out via e-mail prior to the meeting.

3. NARST President's Report- Norm Lederman

Lederman reviewed his NARST President's Report and prefaced the review by asking that each Board member discuss only the portions of his or her report that require motions or actions to be taken. He raised the issue of the cost of CSSP membership versus the relative benefits to NARST stating that he wasn't sure NARST gets any real benefit from this association.

Motion #1: Abell moved that NARST discontinue its membership in CSSP. Crawley seconded the motion.

Discussion of Motion #1:

Abell offered her perspective on the NARST connection to CSSP stating she felt some of the same concerns that Lederman expressed, yet she felt that by attending the CSSP meetings NARST was able to carry on conversations with members of scientific societies.

Mason noted that in her current position at NSF she believes science education is an area of growing national prominence. If we lose touch with CSSP we will likely never be allowed back in and that may be detrimental in the future. She stated that she was not in favor of discontinuing the relationship between NARST and CSSP. Crawley asked Mason to elaborate on the benefits she sees in continuing the membership. Mason stated that she felt the organization was a powerful policy lobby group. Scantlebury agreed with Mason that CSSP does have influence and we should remain connected. Mason furthered her statement by suggesting that various national initiatives will require a strong voice of the higher education science education community and our NARST link to CSSP provides this.

Lederman noted that the voice CSSP gives NARST doesn't help science education, only science because most of the CSSP members are from scientific organizations. He felt it wouldn't matter if NARST was a member of CSSP or not, we would still get the same benefits that we currently receive without the membership costs. McGinnis asked if NARST has any other relationships with scientific organizations that are interested in our organization. Scantlebury indicated that our affiliation with AAAS does provide this link with the greater scientific community.

Lynch asked if we could request that Marty Apple provide us with a letter indicating what the NARST organizations get from our membership in CSSP. Lederman questioned what influence, if any, CSSP and Marty Apple have with or without our membership in CSSP.

Czerniak described her experiences at CSSP meetings. Czerniak and Osborne suggested sending Marty Apple at CSSP a strong letter stating our NARST concerns and that we are considering withdrawing our membership in CSSP. Lynch suggested that the letter come as a motion made by the NARST Board and be sent to the entire Board of CSSP.

Vote on Motion #1: Motion Failed 2-9

Motion #2: Motion made by Czerniak to have President Lederman draft a letter from the NARST Board to CCSP Board asking the organization to define their agenda for the future related to science education. The letter should also define what NARST would like to see CSSP do for our organization. This letter should be copied to the NARST Board for comment prior to being sent out to CSSP. Mason seconded the motion.

Vote on Motion #2: Motion Passed 11-0

4. NARST Past-President's Report- Sandi Abell

Abell noted that there are no actual motion items in her report, but there are some items she wants to pass along about the new NARST management structure. She requested, on behalf of Marilyn Estes, that in the future we not send multiple versions of our Board Reports with frequent updates to avoid wasted space in the Board Book. Estes is working on NARST membership renewals for 2002, and she is working with Zandvliet to update information on the NARST web site. No money has been transferred to UM yet from OSU, but UM is covering the expenses for now.

The membership database has been updated and Estes has sent latest mailing labels to Wiley. Estes is willing to work the registration table at the 2002 NARST Annual Meeting.

Mason suggested that Tillotson and Zandvliet work out a plan for the registration table to make sure it is adequately staffed, especially for handling on-site registrations. Abell noted that Estes feels we should reconsider the one year interim administrative assistant role as it takes a lot of time to get up to speed on the operation and the procedures of NARST. Zandvliet requested that Estes send him new members' information.

Abell reported that there is no new information on the NSTA office situation.

Abell then asked each NARST Committee Chair present to take five minutes to read and review the portion of the "NARST Procedures and Schedules- October 2001" document to make sure that the wording is correct for how the respective committees operate and to suggest corrections as necessary. Abell questioned how much of the document should be placed on the NARST website. Osborne suggested putting it in a pdf file and placing all of it on the NARST website.

Baker suggested that the JRST editor search needs to begin earlier because the six months of transition time allotted was not enough, and that the call for a new JRST editorial team should be placed on the NARST web site in a timely fashion.

Abell reported that NARST will be represented at the Pathways to Change International Conference because she wrote to the leadership requesting that NARST be a co-sponsor. Bill Boone and Kate Scantlebury will be on a panel at the conference at Abell's recommendation based on the topic of assessment that was selected as a key theme.

Abell will send any changes to the "Procedures and Schedules" document to Zandvliet to have them posted on the web.

Abell distributed an updated version of the Elections Committee Report that was not in the Board Book. Abell asked for volunteers to serve as NSTA Research Director and then forwarded the names of the top two candidates to NSTA. Patricia Simmons and John Staver were asked to be candidates, and both agreed to be nominated. Lederman sent recommendation letters for both candidates to NSTA.

Motion #3: Abell made a motion that Andy Anderson and M. Gail Jones be placed on the ballot for NARST President-elect after reviewing the process that was used to solicit nominations and rank the candidates. McGinnis seconded the motion.

Discussion on Motion #3:

Abell noted that she made an equal number of calls to males and females, as well as international members, in attempting to get a wide diversity of candidates to run for the position. Abell then reviewed the process that was used to rank the nominees to get down to the final two.

Vote on Motion #3: Motion Passed 11-0

Motion #4: Abell motioned that the slate of six candidates (Zoubeida Dagher, David Jackson, Gregory Kelly, Gail Richmond, Mike Smith, Deborah Smith) for NARST Board Members At-Large be approved. Osborne seconded the motion.

Discussion of Motion #4:

Lynch noted that all of the candidates are excellent, but quite homogeneous. Also, there appears to be a large contingent of Michigan State University faculty on the list of candidates for both President-elect and Board Member At-Large.

Rodriguez suggested having seats set aside on the NARST Board for international members to ensure representation.

Abell reported that it was very difficult to get NARST members to consider running for all of the positions.

Vote on Motion #4: Motion Passed 11-0

Abell then brought up the issue of what to do if there is ever a tie in a NARST election since the old procedure is outdated. Mason suggested that this item be sent to the Policy Committee. Cobern suggested that if a tie were to occur, that a method of chance such as a coin toss be used to select the winner.

McGinnis suggested sending out an electronic notice to NARST members a few days before the election period ends reminding them to vote. Scantlebury suggested that we put up on the web site the low percentage of NARST members that actually vote in an election to encourage them to be more proactive. Abell asked if it could go to the Elections Committee first, before it goes to the Policy Committee.

Abell asked if it was OK to continue our past practice of the Executive Secretary receiving and counting the NARST ballots and informing the President of the results. This is a departure from what is in the old by-laws and procedures section that was taken out. The Board agreed that this was fine and no formal motion was made.

Abell asked the Board for advice on handling the by-law that allows for a person to be placed on the ballot as long as he or she submits a petition to the Executive Secretary signed by ten NARST members. This by-law is not known by the NARST membership, generally speaking. Osborne suggested that this by-law should be allowed, but such an action must occur before the slate of candidates is approved at the NARST Board meeting and a ballot is prepared. Abell suggested that this be put in the Elections Committee Policy so that the process occurs before the slate of candidates is brought to the Board. Thus the "additional nominations" phrase does not imply that write-ins have to occur after the Board has approved the slate of candidates. Abell reread Article 4, Section 4 of the election by-laws and a discussion of the by-law interpretation followed.

Lederman suggested that we continue as we have done in the past, but we need a by-laws change to be initiated. Abell stated that there is also nothing in the by-laws that specifies a write-in person has to be qualified for the position. Lederman suggested that the Elections Committee consider this issue and recommend actions.

5. NARST President-elect Report- Cheryl Mason

Mason thanked Zandvliet and Carson Au for their work on the web site and electronic aspects of NARST.

Kluwer is continuing their sponsorship of NARST Past-Presidents' breakfast.

Mason asked for a motion before the spring NARST Board meeting on the procedures for removing inactive NARST committee members and/or Chairs.

6. Program Committee Report- David Zandvliet

Zandvliet reviewed the web site and electronic proposal submission process. He re-wrote the Strand Coordinator document. The deadlines for submissions were moved back twice due to some initial postal problems and then the September 11 disaster. Only 15 proposals sent via paper format for the 2002 annual meeting. Lederman asked if we could go back and ask the fifteen individuals why they submitted their proposal via paper.

Zandvliet stated that if they are going to submit the abstract on disk, why not the whole paper and then keep the announced deadlines. He also cautioned that we should not refuse to accept paper proposals.

The NARST proposal review is underway and we are still waiting for a few proposals to be sent out for review.

Zandvliet noted that there are a few additional presentation proposals that were submitted by various groups for special sessions. Lederman announced that Mason and Zandvliet should work together to decide what they want to allow on the program as their prerogative.

Abel noted that some people were not trustworthy of the technology and would have liked to get an e-mail reply indicating that their proposal was received by NARST. Osborne furthered this sentiment, and added that the paper form required a discussant to be listed, yet the electronic version did not. Zandvliet indicated that there a number of revisions that have to be made and are being made to improve the electronic submission procedure.

Clarifications made by Zandvliet: There are actually now 11 strands since Strand 4 was split into two sub-groups. Lederman noted that this would need to be officially changed in the future.

Zandvliet stated that there were a few submissions that were sent to multiple strands, but that the error checks they ran caught this improper practice. These proposals were reviewed either in the first strand to which they were submitted (based on the time stamp) or in the strand that the proposal author suggested when contacted about the matter.

Zandvliet commented that he would still entertain the idea of doing a NARST Proceedings document, as he is interested in that task. Czerniak stated the she felt this was under the

procedures carried out by the Publications Committee and that these types of publications issues are not always clear as to when they should be brought back to the Committee for consideration.

Abell commended Zandvliet for his work and said she thinks people will be patient with the little glitches in the proposal submission process. However, she said normally the Board would see the entire schedule of the Annual Meeting at the Fall Board Meeting in order to plan for the Spring 2002 Board meetings and to inform the slate of potential candidates as to when they need to be in attendance. Also, she wants to see information about strand submission rates in Program Committee Report as well as information on special sessions and receptions that are going to be included in the program so the Board can discuss revisions. This information is also important due to the need to confirm meeting room space with the hotel based on the number of submissions by day and by strand. Czerniak reported that Joe Krajcik is concerned that the number of rooms reserved for the 600 NARST attendees is not enough. Zandvliet will look into this with the hotel liaison.

McGinnis suggested that the Membership Committee solicit feedback from the membership about any new policies or procedures, such as the electronic proposal submission process, so new ideas and suggestions are received from a fresh perspective other than from just the Board.

Discussion of the NARST 2005 conference was held. Rodriguez suggested San Antonio instead of Dallas with NSTA. Abell felt that it would be too expensive to change cities and most NARST members would prefer to save money by having the meeting in the same city as NSTA or AERA. Baker asked if we have any data on what members really prefer. Osborne stated that the international NARST community does not routinely go to NSTA and that they like the meeting to be cost-effective as well. There was some question as to the exact dates of the NARST 2004 meeting. Abell stated that the meeting was to precede AERA in 2004 due to holiday considerations based on previous discussions at the last NARST Board Meeting. Zandvliet will check on both Vancouver and San Diego to check on the new dates of April 2-4, 2004.

Motion #5: Abell made a motion to hold the NARST 2004 Annual Meeting in San Diego prior to AERA. Crawley seconded the motion.

Discussion of Motion #5:

Osborne discussed again the lower expenses associated with Vancouver and reiterated the fact that not all international members of NARST go to both the AERA and NARST meetings. Zandvliet reviewed some of his site visit experiences in San Diego and Vancouver. Abell stated that Vancouver in 2004 might help with NARST's intent to hold meetings internationally from time to time and then NARST could go with Dallas in 2005.

Vote on Motion #5: Motion Failed 0-11

Motion #6: Motion made by Rodriguez for Zandvliet to investigate both Vancouver and Mexico as an alternative site for NARST 2004 Annual Meeting to be held prior to AERA. Mason seconded the motion.

No Vote Taken on Motion #6

Motion #7: Motion made by Lynch to table this decision. Motion seconded by Scantlebury.

Vote on Motion #7: Motion Passed 11-0

Abell pointed out that it is very late to be looking at new sites for NARST 2004.

Motion #8: Scantlebury made a motion to hold the NARST 2005 Annual Meeting April 4-7 after NSTA meeting in Dallas. Mason seconded the motion.

Vote on Motion #8: Motion Passed 9-1 (Lynch) with 1 Abstention (Rodriguez)

Lederman suggested that McGinnis and the Membership Committee gather information from members about future sites for meetings so that we can make informed decisions about site selection. Zandvliet was charged with investigating Dallas for 2005 NARST Annual Meeting.

Mason asked that Zandvliet should be reimbursed promptly since he is paying for these site visits out of pocket. Abell indicated that UM will be prompt in reimbursing people.

7. Executive Secretary Report- John Tillotson

Transition of Executive Secretary duties has been slow due to delays in getting materials from OSU sent to Syracuse University. The transfer of NARST funds to the University of Missouri-Columbia has still not taken place.

At this time, there is not a NARST Budget to be voted on as one has not yet been provided by the outgoing Executive Secretary.

Lederman thanked Tillotson for responding promptly to all requests and informed the Board that he has been at a disadvantage in assuming the role of Executive Secretary.

Discussion of the investments made by the previous Executive Secretary last year on behalf of NARST and the status of that money was questioned given the decline in the stock market. Osborne asked why the NARST money was not in a bank account requiring two signatures. Lederman noted that university accounts are often safer and tracked better in some respects.

Discussion took place about whether Lederman should contact the Dean at OSU to discuss the need for the money to be transferred. Abell outlined a list of items to be requested from the previous Executive Secretary: 1) Money transfers to be made promptly; 2) 2002 NARST budget; 3) information on the state of the investments made last year; and 4) the minutes of past NARST Board Meetings that are missing or incomplete. Lederman agreed to call David Haury and ask him to provide these items.

Osborne stated that he is disturbed by the fact that one person can make financial decisions without NARST Board approval and that this needs to be addressed. Lederman suggested that there needs to be a task force established immediately to look into financial issues given that the Financial Committee has not done this in a responsible or timely fashion. Scantlebury suggested that we ask Ebert-May tomorrow to respond to this charge. Czerniak, Lederman, Zandvliet and Rodriguez volunteered to be on the task force. Coburn suggested that Estes and Abell investigate the monetary issues for handling financial issues at UM-Columbia.

8. JRST Editorial Board Report- Dale Baker

ASU took over JRST editorship January 1, 2001, but their first issue won't come out until January 2002. Baker distributed a revised graph of manuscript submissions to JRST. Anderson and Gallagher are still forwarding manuscripts to ASU that they accepted under their editorship.

Baker reported that the editors are getting a lot of refusals to review manuscripts by members of the Editorial Board. She has recommendations for new Editorial Board members.

Abell asked why we don't ask members to submit their manuscripts electronically to avoid the cost issues associated with mailing out many paper copies to reviewers. Baker reported problems with overseas reviewers in doing this. Baker reported it takes, on average, 46 days for Editorial Board members to respond to requests to review a manuscript. It takes on average 44 days to return a review inclusive of mailing times.

Lynch stated that there needs to be adequate recognition for people who edit special issues of JRST as she and her colleague were not acknowledge for their extensive efforts on the issue they co-edited.

Baker reported that she sent out the vitas of about ten people to the NARST Board who she would like to see added to the editorial board. These include: Dan Shepardson, Carla Zembal-Saul, Tina Jarvis, Doug Huffman, Andrew Lumpe, Cindy Henelo, Fernando Cajas, Tom DeJong, Elaine Howes, Molly Weinburg and Barbara Crawford

Motion #9: Motion made by Baker, seconded by McGinnis, to add these eleven individuals to the JRST Editorial Board.

Discussion of Motion #9:

Baker stated that these people all had reviewed for JRST in the past and their turnaround times were looked at as well as the quality of their work. Abell asked to know who is going off the Editorial Board so that we can be sure that the people we add are filling holes in research areas that these exiting folks represented.

Mason pointed out that some NARST members might be confused about whether they are Senior Reviewers or Editorial Board members. Abell noted that there is no recognition for these Senior Reviewers.

Baker presented the levels of review that occur and the need for a workshop at the annual meeting to inform members about JRST reviewing procedures and to recruit new folks. Baker reported that we have about 125 manuscripts right now and decision letters have been sent to 70 + people.

Rodriguez stated that he understands the need to fill voids, but stressed the need to have balance and equity on the Editorial Board. Baker stated that it's difficult to provide this given the lack of information on Editorial Board member terms that was passed on to ASU from MSU. The lack of return in some cases of the information sheets from the Editorial Board reviewers has also been problematic. Baker stated that these eleven people will still not bring the JRST Editorial Board back up to 40 people, but they are still needed.

Vote on Motion #9: Motion Passed 11-0

Baker stated that there is a need to replace JRST Associate Editors (G. Fishman, S. Reynolds and J. Burk). Angelo Collins and Wolfe-Michael Roth are Baker's suggested replacements.

Motion #10: Motion made by Baker to appoint Angelo Collins as JRST Associate Editor. Motion seconded by Mason.

Vote on Motion #10: Motion Passed 11-0

Motion #11: Motion made by Baker to appoint Wolfe-Michael Roth as JRST Associate Editor. Abell seconded the motion.

Discussion of Motion #11:

Discussion was held concerning Roth's appointment. Baker then reviewed the review process for JRST manuscripts and the role of Associate Editor.

Vote on Motion #11: Motion Passed 9-2 (Czerniak and Mason)

Baker then reported that the reason for the workshop she proposed would be to do some mock reviews and discuss the process of reviewing to develop interest in new JRST reviewers. McGinnis stated he is very impressed with Baker and Piburn as JRST editors.

Diane Ebert-May arrived at the meeting at 10:05 PM.

9. NARST Research Committee Report- Frank Crawley

Crawley announced that his Research Committee is to be commended for their hard work in tackling the charges given to them by the Board.

Crawley is looking for a mechanism to encourage people to submit proposals for NARST presentations at NSTA. Mason suggested emphasizing that the presentation at NSTA is indeed peer-reviewed. McGinnis suggested that the Board give Crawley a list of names of people who Crawley might then send a letter to asking them to submit the presentations for NSTA.

Crawley shared a list of six proposals for pre-conference sessions for the 2002 Annual Meeting. He noted there is nothing in the area of policy. Abell asked if it was appropriate to solicit proposals for pre-conference sessions. Crawley said he has tried this in the past with little success.

The joint NSTA/NARST publication has been announced in NSTA Reports. Crawley will send out the announcement over the NARST listerv. The review team for this publication consists of both NARST and NSTA members. Czerniak brought up that this is an issue that is confusing given the relationship between the Publications Committee and Research Committee. The matter of this joint publication needs further exploration. Lederman offered a brief history of how the joint publication evolved

Abell stated that Crawley has done an excellent job in bringing the Research Committee back to life. Abell also noted that Crawley has been appointed to NSTA Research Committee and that we need to talk about NARST supporting his travel to NSTA as the person that serves on NARST's behalf.

Osborne raised the issue of consistency of reviews and dealing with special issues of JRST. Baker indicated that there is no procedure in place for proposing a special issue, the process for

reviewing it or what kind of case the proposers must make for having the special issue. The charge was then passed along to Czerniak and the Publications Committee to make suggestions concerning this process.

Crawley asked for resolution on the Nancy Brickhouse proposal and if the NARST Board would like the Research Committee to rethink scoring categories for preconference proposals. This will be discussed tomorrow.

Lederman suspended the meeting at 11:00 PM.

**National Association for Research in Science Teaching
2001 Fall Board of Directors Meeting
Hyatt Regency New Orleans
New Orleans, LA**

**Minutes of the Meeting
October 20, 2001**

Meeting called to order at 8:35 AM by Lederman.

Members in attendance:

Norman Lederman	President
Cheryl Mason	President-Elect
Sandra Abell	Past-President
Bill Cobern	Board of Directors
Frank Crawley	Board of Directors
Charlene Czerniak	Board of Directors
Diane Ebert-May	Board of Directors
Sharon Lynch	Board of Directors
Randy McGinnis	Board of Directors
Jonathan Osborne	Board of Directors
Alberto Rodriguez	Board of Directors
Kate Scantlebury	Board of Directors

Ex-Officio Members:

Dale Baker	JRST Editor
John Tillotson	Interim Executive Secretary
David Zandvliet	Annual Meeting Coordinator

Research Committee Report continued- Crawley

Crawley reviewed the draft of the policy statement for creating, destroying and renaming stands that his committee developed. Mason thanked Crawley and his committee for excellent work.

Motion #12: Crawley moved that the policy statement be accepted with minor editorial revisions. Seconded by Sandi Abell.

Vote on Motion #12: Motion Passed 11-0.

Crawley asked that the minutes reflect the discussion on strands, research categories and SIGS within NARST. He proposed that strands be substituted for research categories on the proposal application form and that SIGs not be allowed. He suggested we called these special interest groups Strand Interest Groups instead. Czerniak asked if the codes are ever used for people to meet each other as it happened naturally anyway.

Abell raised the issue of ad-hoc committees really being something else more like a SIG (e.g. Informal Science Education, Practitioner Research) and that this further confuses the issue.

Crawley noted that he felt the strands allowed for the interactions to occur without a special interest group designation. McGinnis suggested the phrase forum could be an alternative as a way of allowing common interest groups to come together. This suggests a temporary formation as opposed to something more formalized.

10. Policy on Electronic Board Discussions and Votes- Czerniak

Czerniak stated that the policy is meant to provide some structure and organization for electronic voting amongst NARST Board members. She explained the proposed policy and how it might be implemented.

Abell raised the issue of seconding a motion via electronic voting. She pointed out the need to streamline the process. Lederman felt the procedures would provide necessary structure and provide a record of Board activities necessary for the minutes and he recommended that we keep the requirement for a second on any motion. Abell and Osborne suggested we revise the timeline to be clear about the time available for a response.

McGinnis indicated that the electronic voting means that NARST Board members have to be available all the time and that this isn't always possible. He suggested letting the President know electronically of any extended absences when a person on the Board would not be available to vote for an extended period of time (3-4 days or more). Lederman stated that this should be in the policy on Board members' responsibilities and asked Abell to add this to the current policy.

Motion #13: Abell made a motion to accept the policy on electronic Board discussions and votes. McGinnis seconded the motion.

Vote on Motion #13: Motion Passed 11-0

11. Policy on Removal of Board Members, Committee Chairs and Committee Members- Mason

Mason reviewed the draft policy and pointed out the need to clarify language in some places. Lynch questioned whether or not the language was too punitive and if we shouldn't include a step to determine if there are extenuating circumstances.

Abell asked that we add language explaining what constitutes negligence of duties, especially in the area of repeated missed meetings. She also wants to add language linking the negligence statements to the policy statement on responsibilities of Board members. Lederman suggested that the President have the authority to remove negligent committee members without having to have a motion voted on by the entire Board.

Motion #14: Motion made by Lynch and seconded by Abell to accept the policy on the removal of Board members, committee chairs and committee members.

Vote on Motion #14: Motion Passed 11-0

12. International Committee Report- Lynch

Lynch reported on the ICASE Symposium panel for the 2002 NARST Annual Mtg. Mason asked Lynch to e-mail her and Zandvliet to make sure there is room space at the meeting available for the symposium.

Lynch discussed having links on the NARST web site to other international science education organizations as a service feature to members.

Lynch then reviewed the handout she distributed on affiliations and discussed the various national organizations' approach to handling affiliates. Lynch raised the question about why we want affiliates. Abell raised the question about potential international affiliates. Lynch pointed out the need to define what an affiliate is. Osborne cautioned that some organizations could seek to gain credibility by associating with NARST. Czerniak suggested using language like that between NSTA and AETS.

Abell suggested that we develop a continuum of affiliate levels that we need to establish and possibly we can use the AETS language as a starting point.

Lynch then raised the issue of our position in the international science educational community and in ICASE. Baker raised the issue of whether NARST could or should provide some type of reduced rate or scholarship for international members from third world nations who might want to travel to NARST and contribute to the meeting.

Alberto Rodriguez arrived at 10:05 AM.

Lederman suggested that the international issues should be sent to the Policy Committee for further discussion and that Lynch consult with this committee. There are financial issues associated with the ICASE affiliation that need to be considered by the Financial Advisory Committee as well. Abell will report back at the next meeting.

13. Program Committee Update- Zandvliet

The dates April 2-4 are available for the 2004 NARST Annual Meeting in Vancouver, BC.

Rodriguez withdrew motion #6 from 10/19/01 Board Meeting.

Motion #15: Motion made by McGinnis to hold 2004 NARST Annual meeting in Vancouver on April 2-4. Seconded by Cobern.

Vote on Motion #15: Motion Passed 12-0

14. Financial Committee Report- Ebert-May

Given that a 2002 NARST budget was not available at the meeting, a discussion was initiated based on the 2001 budget.

There is a need to know what the fixed costs of JRST from Wiley will be down the road 4-5 years in terms of percentage increases. Baker stated that the personnel support for JRST Editor is too low and that she had to ask for resources from her institution. The up-front costs are going to be debilitating if the next editors can't get this support from their institutions like ASU has provided.

Ebert-May noted that the NARST President's travel outside of NARST has been fixed for years at \$800 and needs to be adjusted for the future if we get more involved in international boards.

Abell noted that the Executive Secretary's budget needs to be changed to reflect the new administrative structure. She reviewed the budget as agreed upon for 2002 at the June meeting for the new Interim Executive Secretary.

Zandvliet raised the issue of the reduction in the 2001 budget for convention program costs. Abell reported that there were excessive costs associated with printing at the conference site versus doing it at a university and having them shipped.

Abell suggested that line item 3900 be taken out and that the \$3700 in line item 2600 be placed under the NARST President's discretion.

Ebert-May stated the need to project out the fixed costs of NARST annual meetings for 4-5 years.

Abell suggested that line items 4210 and 4220 be removed and that the amount of line item 4200 be made \$1500 x 2 workshops. Also, she suggested that line items 4310 and 4320 be removed and line 4300 should be made \$3,600 as one payment to the speakers.

Abell further indicated that line item 4500 should be kept for the NARST President's hotel costs, however, the hotels often provide the rooms as a complimentary package.

Abell asked that we look specifically at line item 4610 when the David Haury provides a budget to see if the extra amount expended in the 2000 budget was a trend or an unusual event.

Lynch asked if David Haury could provide monthly budget statements from 2001 to help us track member registration deposits and other revenues.

Motion #16: Osborne motioned that NARST raise the 2002 NARST conference registration fee by 5%. No second was received.

No vote was taken on Motion #16.

Abell noted that international members have a hard time affording NARST and that we did raise NARST member dues last year. McGinnis suggested we raise it by inflation rates rather than by a straight percentage.

Abell suggested that we charge the Financial Committee with balancing the books on the annual meeting projections for 2002 meeting so that the receipts and disbursements balance out and we adjust the conference registration fees accordingly.

Abell asked that line item 5110 be removed since the line doesn't exist.

Abell asked if we need a member directory in paper copy or if we could just have an electronic directory on line.

Line item 6800 was a one time \$10,000 allocation for the web site transition. This will go back to \$3,500 after this year.

Czerniak asked about the \$2000 line item 5300 for the NARST monograph publications. Tillotson was charged with investigating the inventory of the NARST monographs with Estes and reporting back to the Board in April. Estes should be asked to have the monographs sent to annual meeting for sale. Coburn suggested a liquidation sale at some point if they aren't selling.

Abell asked the Board if the internal audit at UM-Columbia would be sufficient and if we could get a final audit from OSU before transferring the money to UM-C.

Motion #17: Crawley motioned that an on-site visit at OSU be made by the NARST President to gather financial information, and that the President request a final audit from OSU in his letter to David Haury. McGinnis seconded the motion.

Vote on Motion #17: Motion Passed 12-0.

It was noted by Abell that Marilyn Estes, NARST Administrative Assistant, needs to check the membership form to be sure that the increases in Wiley fees for JRST are reflected on the new form.

15. Publications Committee- Czerniak

Czerniak has no information on the 2002 NARST monographs.

Czerniak asked Zandvliet if the \$3,500 line item is going to be enough to cover the web related costs and if he has a clear direction on what is needed for NARST web site. Zandvliet said that this depends on NARST's long-range projections. Czerniak asked that Zandvliet suggest what could be done for \$3500 and what might be needed in the future, and that she will ask the Publications Committee to provide feedback on strategic planning for the web. Zandvliet doesn't have the strategic planning notes on the web site so Czerniak will send them to him.

Zandvliet reported on some of the problems with the listserv and some of the steps that have even taken to resolve them. Crawley asked about security issues for electronic voting by Board members. Zandvliet suggested a closed list listserv so that outsiders can not post to the list.

Abell suggested that any changes in addresses or e-mails go to Estes since she is keeper of the master membership files for NARST and she can then periodically send updates to Zandvliet.

Abell suggested that we not use the NARST News publication for job ads since the listserv is a better option. She also noted that the call for proposals deadline is missing from the report.

Czerniak will send Yerrick and Parke a letter asking them to reconsider the deadlines for NARST News in light of the recent events with the postal situation. Abell pointed out that the delays in the newsletter are often caused by delays in people getting information to them.

Rodriguez asked how the deadlines for NARST News are publicized. Czerniak will check with Yerrick and Parke.

Czerniak shared some of the editor's concerns about questions they get from membership. Abell asked if we should invite NARST News editors to the NARST Board meetings in spite of the extra cost.

Meeting was adjourned for lunch at 12:18 PM.

Meeting resumed at 1:25 PM following lunch.

16. JRST Award Committee- Osborne

Osborne reviewed his report from the NARST Board Book. In particular, he asked that the Board review Draft #1 of the criteria and instructions for selecting the best JRST article.

Osborne asked how outgoing members of the committee are replaced. Mason will appoint these individuals.

17. Outstanding Paper Award Committee- Scantlebury

Scantlebury reviewed her report and stated that things are going well except that certain committee members are not carrying out their duties.

McGinnis asked why only 35 of 51 papers nominated were actually sent in to the committee. Scantlebury said some people feel their papers are not strong enough to be submitted.

Mason asked that Scantlebury make sure the committee reflects equity and diversity given its importance.

18. Distinguished Contributions to Science Education through Research Committee- Cobern

Cobern reviewed his report in the NARST Board Book. Each of the persons nominated has been contacted to see if they are interested in continuing their nomination this year. Cobern stated that he might have a motion next year on how long a person can continue to be considered year after year for the award if they don't receive the distinction. He also contacted the nominators and asked them if they wanted to continue to support it.

Abell asked Cobern to review the Policies and Procedures section to see if it reflects the process used by the committee.

Motion #18: Motion by Cobern for the NARST Board to ratify the list of nominees for the Distinguished Contributions to Science Education through Research award. Seconded by Abell.

Discussion on Motion #18:

Czerniak asked for background information on one of the candidates. Cobern provided this information.

Vote on Motion #18: Motion Passed 12-0.

19. Early Career Research Award Committee- McGinnis

McGinnis reviewed his report to the Board. He thanked the Equity Committee for their advice during his committee's work when questions arose.

Lederman noted the need to correct the e-mail address for one of the candidates.

20. Outstanding Doctoral Research Award Committee- Rennie

Board report from Rennie was reviewed in her absence.

21. Outstanding Master's Research Award Committee- Ebert-May

This report was not received by the Board via e-mail prior to the meeting for some unknown reason. Ebert-May briefly reported that there are six candidates for this award that are being reviewed by the committee.

22. Equity Committee- Rodriguez

There was a discussion of motion #6 in Rodriguez' report. The Membership and Equity Committee was charged to change the membership form and revise it to include gender, ethnic background, professional rank, and background information options on it. Rodriguez stated that the form should indicate the purpose for why we need the information to balance representation on committees, etc. McGinnis suggested the Equity Committee look at the form first and work with the Membership Committee to finalize it. Once this has been done, the revised form should be sent to Tillotson who will work with Estes to update the form and fields in the database.

Rodriguez reviewed motion #8 in his report. Abell stated that NARST is close to having finished that one in the Policy Committee except for the Distinguished Contribution award. The consensus was that there is no need for a formal rubric, but there should be guidelines that are clear for evaluating material for award consideration. Mason will work with Cobern on this matter.

Motion #11 in Rodriguez' report was discussed. Abell noted that actions have been taken on putting the policy manual on the web site, but there is some work to be done and there is a higher priority to get the meeting program materials on the web site.

Motion #11b in Rodriguez's report was discussed.

Abell recommended that Czerniak send the deadlines for NARST News to Abell for inclusion in the policy manual. Czerniak said she will first consult Parke and Yerrick to give consideration of the deadlines given the status of bulk mail in the US.

Tillotson should investigate how the NARST News is mailed out whether it's first class or bulk mailing in light of deadline issues.

Rodriguez pointed out that we should continue to accept paper proposals and require all members who submit this way to also submit a copy on disk to facilitate transferring the info to the database. This would not mean flexible deadline dates, however, it would just allow international members to have the paper option. Zandvliet asked that we continue the differential deadline dates between electronic and paper given the extra work for paper submissions at this office. Consensus of the Board was reached without a motion.

Motion #19: Motion by Rodriguez for the Executive Secretary to submit a summary of the Board Meeting minutes containing key items and actions with vote counts posted on the web site within one month after receiving Board approval. McGinnis seconded it.

Vote on Motion #19: Motion Passed 12-0.

Mason responded to Rodriguez' request for NARST to donate \$500 to IAACS stating that more information on their goals and mission is needed. Also, the Policy Committee on Affiliations needs to meet first to discuss the process before we can act on this request.

Discussion took place concerning the MER session and its position on last day and last session during 2001 NARST. Baker argued that it is unfair to have any preferential scheduling of sessions.

23. Membership Committee- McGinnis

McGinnis discussed his report and the charges given to his committee. He reported that he has members of his committee who are not carrying out their duties. Abell asked McGinnis to inform Mason of who has been coming to the meetings but are not on the committee so she might consider appointing them.

24. NSTA Report to NARST-McMahon

Report reviewed in her absence

25. AAAS Representatives- Linn and Scantlebury

No report provided.

26. ICASE Report- Lynch

No report provided.

27. Environmental Education Ad Hoc Committee- Zint

Lederman recommended to Mason that they no longer be considered an ad-hoc group and be considered a special interest group. Lederman will send them a letter of thank you. Zandvliet is a member of the committee and he felt they the group wants a home in NARST, whatever they be called. The Board needs to resolve the SIG issue discussed earlier.

28. Informal Science Education- Dierking and Falk

Lederman gave a report on his discussions with Dierking and Falk about the committee becoming a standing committee. He then asked the Board to review their report in the Board Book and pointed out that there is a strand for Informal Science Education. Lederman recommended to move them from an ad hoc committee to just a strand which they are already. Again the decision about SIGs and strands must be made.

Crawley discussed boiling ad-hocs, SIGs, special research groups, etc. all down to strands and give strand coordinators the preference to create Strand Interest Groups (discussion groups) as needed within and across strands. Abell wants there to be a mechanism for these groups to meet and talk.

Motion #20: Crawley motioned that NARST use strand names to replace the research categories on the membership form and that the Research Committee create a mechanism

for forming research interest groups within and across or independent of the strands. Abell seconded it.

Discussion on Motion #20:

The research interest groups could then have the ability to organize and petition to request formal strand status if they have a strong enough case.

Vote on Motion #20: Motion Passed 12-0.

Lynch exited at

29. Old Business- Lederman

IJSE will be offered to NARST members for about \$70 so watch for the informational flyer to come out in the near future.

Board reports are too expensive to mail out ahead of time. Lederman asked that all Board reports be sent electronically to entire Board on the same day the report is sent to Estes. Abell and McGinnis expressed concerns about the overload of e-mail messages that we get and the need to print them all out.

Lederman indicated that there will still be a Board Book, but members should send the reports electronically to all of the Board members.

Lederman brought up Crawley's need for guidance on pre-conference sessions. Crawley will pass the decision on to Mason and Zandvliet for them to schedule the presentations in question. Abell brought up the need to discuss the policy concerning what constitutes a pre-conference session.

Lederman brought up the issue from the previous session yesterday concerning the NARST representative's travel for purposes related to the NSTA Research Committee duties.

A proceedings publication for the annual meeting was discussed. Zandvliet talked about getting strand coordinators involved in this process. Lederman charged Czerniak and the Publications Committee to come up with recommendations on how to proceed with conference proceedings. Discussion followed on various formats that these proceedings could take. Baker will talk to Wiley about how they would respond to receiving papers already in printed in a conference proceedings.

Mason discussed the annual meeting program for 2002. The hotel contract has the NARST Board meeting and lunch on Saturday April 6, 2-10 PM reserved with pre-conference sessions on Sunday morning with full sessions later that day through Wednesday afternoon. The second Board meeting is then on Wednesday, April 10 in the afternoon from 12:30 to 4:30 PM. Abell reported that this is because we have to work around the AERA conference for rooms on Saturday night.

The tentative dates of October 18 -20, 2002 were set for the fall board meeting, but Lederman asked members to save the preceding weekend of October 11-13th just in case there is a need to move the meeting dates in Philadelphia.

Lederman reviewed the NARST Fall Retreat from last year and some of the major outcomes. In particular, he discussed the reorganization of the NARST Board structure reported on pages 8-14 of his President's Report.

Abell expressed her concerns about the lack of international and financial concerns in the proposed new structure. She felt there are numerous policy and committee efforts that require a financial advisory committee to give advice on these matters beyond a single person like the Executive Secretary. Also, the combination of the NARST awards committees would be problematic.

McGinnis asked if the Financial and Policy Committees could be joined under the proposed new structure.

Abell suggested External Policy and Research be combined, and then the Finance and Internal Policy Committee could be created under the new structure. The rationale for having Board members chair standing committees was to have them be presented at Board meetings to report on activities.

Scantlebury suggested having a Board member co-chair the Awards Committees with a NARST member so there would be some accountability and mentoring. Abell pointed out that if we look at the six standing committees chaired by Board members and the six awards committees, we could have each Board member chair one of the awards committees and one standing committee. The Board member would then appoint a chair-designate for the award committee, but oversee their work. Abell pointed out the need for by-laws revisions, membership votes, etc. to bring about these changes proposed by the committee.

Mason suggested we move slowly on the matter. Lederman pointed out that he doesn't want the work of the 20 people at the Fall Retreat to be lost or ignored which is why he has brought this up for discussion.

Lederman suggested that NARST form a task force to look at these proposed restructuring issues brought up today and find ways to reconcile them with the existing committee structure and their charges. Crawley suggested we go back and continue to discuss these issues with the original working group from the retreat last fall to keep them informed and involved.

Lederman and others suggested a number of items that McGinnis and Mason could mention in his promotion of the annual meeting to members such as the mall, casino, etc. in New Orleans.

Motion #21: Motion to adjourn made by McGinnis and seconded by Rodriguez.

Vote on Motion #21: Motion Passed 11-0.

Meeting adjourned at 5:20 PM.

President's Report
NARST Spring Board Meeting – Part I
April 6, 2002
New Orleans, LA

Norman G. Lederman

1. Immediately following the Fall Board meeting, I made a concerted effort to have David Haury send NARST financial records to Sandi Abell and John Tillotson, transfer NARST monies to University of Missouri, and send all outstanding minutes from NARST Board meetings. At this point, I have been able to complete all desired results except for the minutes from the Spring, 2001 Board meeting. Although the process was a long one, it did not require that I visit David at Ohio State.
2. As a consequence of our recent restructuring of the Executive Secretary's responsibilities, it was decided that we would not pursue all of the changes suggested as a consequence of the Fall, 2000 Retreat. I (along with Frank Crawley and Charlene Czerniak) was instructed by the Board to investigate whether changes in Board organization suggested by my strategic planning committee could be "mapped" onto the existing NARST Board structure. The results of this effort are reported in **Appendix A** of this report.
3. The organization continues to have problems associated with international members' timely receipt of election ballots, meeting proposal forms (NARST News), and meeting registration forms. In general, there is a concern that international members have not been receiving these and other important items in a manner that allows them to meet deadlines. **This important issue must be resolved.** It appears that a totally electronic approach should be adopted for all or some of the items listed above. If this is not possible, we need to reconsider our mailing and deadline dates.
4. Associated with item #3 are the continued discussions about whether proposal submissions should be totally electronic. Six months ago we were fairly committed to the idea that NARST would retain both electronic and hard copy submission guidelines. The sentiment was expressed that we should at least collect data from individuals submitting "hard copy" as to why they selected that option. I am anxious to reach some closure on NARST's future direction.
5. Some Board members have expressed a concern about whether the organization should consider reducing its membership rate for individuals in countries experiencing economically difficult times. I promised that this would be brought up for discussion at this Board meeting. Hence, this item has been included. From my perspective, however, any consideration of varying rates based on idiosyncratic

economic situations opens a can of worms that is difficult to monitor. For sake of fairness to all and equity, I would not recommend that we change our existing membership rates for individuals experiencing difficult economic times.

6. As recommended by the Board, I agreed to support Frank Crawley's travel to the NSTA Annual Meeting in San Diego to represent NARST on the Research Committee. It is expected that the NARST Research Director will continue to be supported for travel and expenses associated with the Annual NSTA Meeting.
7. Negotiations with Taylor and Francis regarding a reduced subscription rate for the *International Journal of Science Education* for NARST members were completed. NARST members may now receive the journal for \$96.00 USD per year. Following my advertisement of this "deal," Michael Matthews convinced Kluwer to do the same for *Science and Education*.
8. Since August, John Tillotson has been working as NARST Executive Secretary and Mailyn Estes as Administrative Assistant under the restructuring "experiment" agreed upon last summer. NSTA is still not ready to provide NARST with the administrative services discussed last year and it is now time to consider next steps. Sandi Abell and I spoke with John Tillotson and Marilyn Estes about their jobs and what recommendations they might have. In general, both felt the distribution of responsibilities was working well and that, because the learning curve was so steep, any changes at this point would be much more disruptive than helpful. Sandi and I recommended to the other re-organization committee members that we retain the current administrative arrangement, while continuing discussions with NSTA. It is now time, however, to advertise for an Executive Secretary as John Tillotson accepted the position only as a one-year interim position.
9. The Board agreed via electronic conversations to have John Tillotson invest NARST monies as directed by our financial advisor from American Express. However, the sentiment of the Board was that these investments were short-term actions and that serious discussions concerning how NARST should spend "extra" funds should be pursued at the Spring, 2002 Board Meeting. It appears that one of the most critical things to consider is that NARST is a non-profit organization and that profits gained should be re-invested in ways that would better the organization's activities and mission and not simply in ways to increase profits. In short, it is fine to have money set aside for emergencies, etc., but after the amount needed for such has been agreed upon, we should consider how the organization can be improved through expenditures of additional profits.
10. Immediately following the Fall Board meeting I sent a letter to Marty Apple outlining NARST's concerns about membership in CSSP. A copy of the letter can be found in **Appendix B** of this report. Marty sent a response and you all received a copy. Basically, the letter offered little more than an offer for NARST to organize a session at the next CSSP meeting. I continue to have concerns about NARST's membership in CSSP. Although I find the CSSP meetings to be interesting at times (and very

disorganized at others), I am not sure if NARST is spending its money (i.e., approx. \$3300 per year) wisely to be involved with CSSP activities. I have been partly responsible for several other organizations' (i.e., AETS, NSTA, SSMA) decisions to join or remain a member of CSSP. The primary goal for my advocacy was that membership in this national organization would provide the following for our science education organization:

- a) visibility for the organization within a powerful lobby group
- b) an opportunity to work directly with leaders in the scientific community
- c) an opportunity to impact national policy related to science education

Basically, it was assumed that membership in CSSP would give our organization more of a voice than operating in isolation. In my opinion, the support CSSP provides for science education (both level and kind) would occur regardless of NARST membership. CSSP primarily does whatever it can relative to increasing or maintaining funding for science (and related fields). They have done this and will continue to do so whether NARST participates.

In addition to myself, others have expressed opinions on both sides of the issue via e-mail. At the last Board meeting we agreed to proceed more cautiously than I had recommended and at least express our concerns to CSSP. We have done so and I still remain unsatisfied. **I continue to recommend that NARST discontinue its membership in CSSP and would entertain a motion to do so.**

Appendix A

Board Reorganization "Mapping"

The **one significant change that I would still advocate** is that all of the awards committees be combined into a single **Awards Committee** with each of the current committees constituting a sub-committee reporting to a Chair.

I would also like Board members to serve on more than one committee simultaneously so we can create a mentoring program where a Board member serves as an aid to a Committee Chair for at least one year before taking over as Chair.

Policy Advisory Committee

To review existing and/or controversial educational policies at the state and national levels and to produce position papers based on research. To produce position papers, specific to policy issues, based on current and innovative findings and distribute these papers through the Publications and Research Committees to the membership, policy-makers, and community at large. Note that these position papers may not necessarily have to reflect a unified position for NARST, but they are meant to add information on various perspectives based on science education research so that policy makers and the public at large could make more informed decisions.

Financial Advisory Committee

NO CHANGES ARE NEEDED

Publications Advisory Committee

Responsible for monitoring the process and format of ALL NARST publications. This means that any potential publications produced by other committees would be monitored by the Publications Committee for process and format, but not necessarily content. In addition to developing policy for the existing publications of the organization, the committee will facilitate the development of joint publishing projects with other professional organizations (e.g., NSTA, AETS) as well as publications, concept papers, and press releases/updates targeted for use by the media, policy makers, funding agencies, national/local education officials, teachers, and other professional organizations. Concept papers, press releases, etc. may be deferred to other Committees or the Publications Committee for completion or may be completed by the Committee itself.

Program Committee

The primary change would be to include the Strand Coordinators as a formal part of this committee or as Ex-officio members. This would give the Strand Coordinators a more active role within NARST as they organize the annual program.

Research Committee

The committee will direct its attention to providing the membership of NARST with much needed professional development related to all aspects of research methodology, research findings, and the dissemination of research findings to constituencies outside the organization. It is anticipated that the committee will provide the membership with sessions conducted by both NARST members and non-members specifically related to current and emerging research methodologies, paradigms, data analysis, and topical areas of interest. In addition, the committee will organize and provide professional development activities related to the dissemination of technical research reports to lay audiences and communication of research to the media and funding agencies. These foci will provide the committee with a productive direction and facilitate the accomplishment of the NARST Mission. The Committee may also be "commissioned" by the Publications Committee to develop research-based publications for dissemination to appropriate constituencies.

Elections Committee

NO CHANGES ARE NEEDED

International Committee

NO CHANGES ARE NEEDED, but there needs to be a stronger emphasis on the written charges of the committee. The focus should be on science education at the international level rather than on just what is happening in places other than North America.

Membership Committee

NO CHANGES ARE NEEDED

Equity Committee

NO CHANGES ARE NEEDED

Various Awards Committees

These committees become subcommittees of a consolidated **Awards Committee**. The subcommittee chairs (appointed by the President) would manage the nominations and judging of the awards, supported by the Executive Secretary and NARST web site. The chair of the Awards Committee (an elected Board member with voting rights) would report to the Board on the policy issues related to the award process.

Current Awards Committees

JRST Award

NARST Award

Distinguished Contribution

Early Career Award

Outstanding Dissertation

Outstanding Masters

Appendix B

Letter to Marty Apple about CSSP

October 29, 2001

Dr. Martin Apple
Council of Scientific Society Presidents
1155 16th Street, NW
Washington, DC 20036

Dear Martin,

I have been instructed by the Board of Directors of the National Association for Research in Science Teaching (NARST) to express several concerns we have related to our membership in CSSP. As an organization we are deeply committed to the improvement of science teaching and learning through research and we recognize that the dissemination of science education research to influential and appropriate policy makers, among others, is essential to the achievement of our organizational goals. Our primary reason for joining CSSP was the perception that membership in such a prestigious and influential organization would help our relatively small organization impact public policy and ultimately improve science teaching and learning.

It is clear to our membership that CSSP is committed to the improvement of science education at all grade levels. However, we do have some concerns about the promotion of our shared organizational goals. During the past few years it appears that the primary focus of CSSP and the activities during the two yearly meetings is to promote public and political awareness of science and science-related issues in an effort to maintain or increase financial support of science. NARST certainly supports the importance of financial support for science. However, as mentioned previously, our goals also include a focus on research on the teaching and learning of science and the use of this research to improve science education. It is not clear how the agenda for the two annual meetings are established, but it is clear that little attention is given to the foremost goals of our organization. It also is not clear what CSSP does as an organization between its meetings to address the needs of interest to the NARST membership. In short, the Board of Directors of NARST is considering terminating its membership in CSSP. It is not that CSSP has goals that we consider unimportant, we are just wondering if our goals and needs would be better addressed through other affiliations.

The Board of Directors of NARST would like to know what CSSP's future agenda is with respect to disseminating the research on teaching and learning of science to its members (and policy makers) and considering more fully its implications. We would also like to know what our members could do for CSSP to help promote more visibility of research on the teaching and learning of science. For example, we could provide a symposium on the findings of current research in science education and its implications for instructional practice and curriculum development at one of the meetings or develop a white paper for CSSP members.

Thank you for taking the time to read about our concerns. Also, let me reiterate that NARST fully supports the importance of the issues that occupy the attention and time of CSSP. We are just seeking additional information in an effort to decide the value of our association with CSSP.

Sincerely,

Norman G. Lederman
NARST President

AGENDA
NARST 2002 Spring Board of Directors Meeting, Second Session
April 10, 2002 New Orleans, LA

1. **Welcome New Board Members**
(Andy Anderson, Deb Smith, Zoubeida Dagher, Gail Richmond)
2. **Minutes** (first session of the board meeting) - John Tillotson
3. **President's Report** - Cheryl Mason
4. **Past President's Report** - Norm Lederman
5. **President-elect's Report** - Andy Anderson
6. **Program Committee Report** - Andy Anderson
7. **Executive Secretary's Report** - John Tillotson
8. **Reports from Standing Committees:**
 - A. Policy Advisory - Norm Lederman
 - B. Financial Advisory - Deb Smith
 - C. Publications Advisory - Charlene Czerniak
 - D. Research - Frank Crawley
 - E. Election - Norm Lederman
 - F. International - Sharon Lynch
 - G. *JRST* Award - Jonathan Osborne
 - H. NARST Outstanding Paper Award - Zoubeida Dagher
 - I. Distinguished Contributions through Research Award - Bill Cobern
 - J. Early Career Research Award - Randy McGinnis
 - K. Outstanding Doctoral Research Award - Gail Richmond
 - L. Outstanding Masters Research Award - Gail Richmond
 - M. Membership - Randy McGinnis
 - N. Equity - Alberto Rodriguez
9. **Reports from Ad Hoc Committee** - Emily van Zee & Deborah Roberts
10. **Other Reports:**
 - JRST* Editors - Dale Baker & Mike Piburn
 - Representatives of NARST to other Societies:
 - Section X, AAAS - Marcia Linn
 - AAAS Affiliates Meeting -
 - National Science Teachers Association - Patricia Simmons
 - ICASE - Sharon Lynch
11. **New Business**
12. **Fall Board Meeting**

October 18-19, 2003 Wyndham Franklin Plaza Hotel; Philadelphia, PA
Plan to arrive early enough to begin dinner and the meeting (5:00P - 10:00P).
You can leave anytime on Sunday, October 19th.
Andy will set the next board meeting date as soon as possible.



COUNCIL OF SCIENTIFIC SOCIETY PRESIDENTS

1155 16th Street NW • Washington, DC 20036 • 202-872-4452 • FAX 202-872-4079
www.science-presidents.org

ISSUE PAPER: FEDERAL SUPPORT OF SCIENCE & MATHEMATICS EDUCATION

CSSP POSITION: SUBSTANTIAL INCREASES IN FEDERAL SUPPORT OF EDUCATIONAL RESEARCH MUST BE A TOP NATIONAL PRIORITY: THE RESULTS OF THIS RESEARCH MUST BE APPLIED TO IMPROVE EDUCATIONAL PRACTICE AND THUS PROVIDE THE NATION'S CHILDREN WITH NECESSARY PROFICIENCY IN MATH AND SCIENCE

To remain competitive in a global economy and to ensure our nation's economic security and social well-being, the US needs a workforce that is well schooled in science and mathematics and a citizenry that is science and mathematics literate. In an increasingly technological world, where the work place demands advanced skills to solve complex problems, and where public policies must be based on an understanding of science and technology, access to a world-class education in mathematics and science is essential for all citizens.

- ❖ Americans overwhelmingly agree that science and technology occupy key places on the national agenda. Seven of eight (88%) say that the US should be the world leader in technological progress. Four of five (80%) concur that the education of our children should be a top national priority. Yet, in 1996, 40% of high school seniors failed to reach minimum competence in science, and only 27% were proficient in mathematics. Our nation's high school children underperform relative to the majority of those elsewhere in the world.
- ❖ Effective, educational research based on sound scholarship will help teachers and parents understand which teaching methods work and which ones do not. Research is needed in all aspects of education, from the preparation of new teachers to early childhood learning, and this research must be merit reviewed and directed to measureable learning outcomes. Not only must access to research results be available to all — from state superintendents to classroom teachers to parents - but the recipients must know how to use it and be committed to doing so. The President's Council of Advisors on Science and Technology (PCAST) suggests that we devote many times the resources we do now to educational research.
- ❖ Without a coherent, research-based vision for mathematics and science education, many independent efforts at curriculum reform have a scattershot effect. The nation has developed Professional Teaching Standards, Curriculum and Evaluation Standards for School Mathematics and National Science Education Standards. These new standards are the basis for needed improvements in teaching, curriculum, pedagogy, assessments of educational progress, and in school systems. The effective implementation of these, and future research-based standards, must be a national priority.
- ❖ Research in education and educational standards is a proper federal role. With federal support, expanded research on how to improve the teaching and learning of science and mathematics will catalyze improvements at state and local levels. The seven priorities for educational research adopted by the Department of Education in 1997 are appropriate guidelines for such increased investment. The Sept. 1997 PCAST recommendation of an added \$1 billion/yr in federal educational research is a call to action.

CSSP CONCLUSION

Federal investment in mathematics and science educational research must be increased substantially over the next decade; the results of this research must be put into practice quickly and effectively.

For more information contact: Dr. Martin Apple, Executive Director, CSSP, at 202 872-4452 or at cssp@acs.org

Past President's Report
March, 2002
Sandra K. Abell

1. NSTA representative. I have served 2 years as NARST's representative to the NSTA Council. In February I attended the NSTA Winter Board meeting in Arlington, VA. During my term, I have witnessed a strong commitment from NSTA toward NARST through the joint publication project (see Research Director's report), and through continuing discussions about NARST management. I would like to personally thank Maureen McMahon for her service to NARST as NSTA representative to our Board. Her work to catalyze the PEERs Matter NSTA/NARST publication is to be commended.
2. NARST management. The attached report was sent to the Subcommittee on NARST Management, who approved the plan. Subsequent action on a new Executive Secretary search has been initiated by President Norm Lederman.
3. NARST budget. The University of Missouri, Columbia put together a 2001 budget based on the accounts received from Ohio State. We also drafted a 2002 budget and sent to the Executive Secretary and the chair of the Financial Advisory Committee for review.
4. Negotiations with Lawrence Earlbaum Associates. LEA is considering publishing a new edition of the NSTA sponsored Handbook of Research on Science Teaching and Learning. I have been in communication with LEA, NSTA, and Dorothy Gabel in the hopes of adding NARST to the sponsorship of the new edition.
5. Chair, Policy Advisory Committee (see report, Tab 10)
6. Chair, Elections Committee (see report, Tab 12)

To: NARST Management Board Subcommittee: Cheryl Mason, Sharon Lynch, Randy McGinnis, and Kate Scantlebury
From: Sandi Abell and Norm Lederman
RE: Reassessing our Management Plan

We have been working to assess the current NARST management plan that our subcommittee recommended last June and that NARST put in place last August. Through conversations with John Tillotson, Marilyn Estes, and Gerry Wheeler at NSTA, we have the following information:

1. John Tillotson thinks that current arrangement and breakdown of duties works well, and that the support of \$15,000 is sufficient. He believes that the Executive Secretary should be a member of our organization so he/she can represent NARST in various negotiations, and be a liaison to the Board. This year has been hard for John due to having a steep learning curve, and helping sort out the various responsibilities of Executive Secretary, Administrative Assistant, and Annual Meeting Coordinator, all of whom were new. John advises that all communications with the ES go through the president, as a way of keeping communications clear and consistent.
2. Marilyn Estes has also had a steep learning curve, with spotty support from Ohio State University in the transition. Currently she spends about 35 hours per week on NARST work; NARST supports ½ of her salary. She believes that after she has gone through all of the activities once, her time needed for NARST should diminish. We believe that Marilyn has done an excellent job of keeping all systems operational, completing her work in a timely manner, and communicating with the president and members of the board as needed.
3. NSTA voted at its summer board meeting to continue conversations with NARST about association management. Their interest in working with us was reiterated at the Winter NSTA board meeting in February. However, NSTA has been making the transition to a new technology system and is not yet prepared to enter into this operation with us. NSTA is piloting a new "join science" web site, which could be a one-stop shopping place for folks interested in joining NSTA, one of its affiliates, or a state level association. This might be an option for NARST membership management in the future.

Our recommendation: Because of the steep learning curve and difficulties associated with transitions, we recommend that NARST continue the current arrangement of Executive Secretary and Administrative Assistant. We recommend that Marilyn Estes continue as the Administrative Assistant at the University of Missouri, Columbia, and that we have a new search for a 5-year Executive Secretary. We also recommend that conversations, led by Norm and Cheryl, continue with NSTA. We envision a model whereby we have a trial relationship with NSTA on some part of NARST operations and evaluate it before entering into a longer term or deeper commitment. At the same time, we recommend retaining Marilyn Estes's services throughout the term of the next Executive Secretary.

President-elect's Report
March, 2002
New Orleans, LA

Cheryl L. Mason

1. The decided upon theme Research, Policy, Practice: Creating a Voice for the Profession is reflected in the Plenary Speakers and many of the sessions.
2. Over the past several months, I have been in steady communication with Norm and Sandi concerning issues revolving around a myriad of details.
3. David Zandvliet, Carson Au and I have worked intensely on dealing with aspects of the program and program-related items on the website. My gratitude is immense for their work on making the entire process electronic. For the most part, there were few glitches.
4. We finally resolved the hotel web connection issue after numerous calls.
5. There were literally hundreds of email messages with questions and concerns about proposal submission, proposal acceptance, hotel and meeting registration, changes in presentation format and times, NARSTNews, ballots, among other things, to which I responded. Thankfully, David Zandvliet and Carson Au would often do the followup.
6. Kluwer was invited to continue its sponsorship of the Past-Presidents' Reception at the annual meeting in New Orleans at a level of \$500. Michel Lockhorst of Kluwer quickly agreed to continue sponsorship of the event.
7. Marilyn Cochran-Smith will be addressing practice on April 8th at 10:30A. David Berliner will be addressing policy on April 9th at 10:30A.
8. Concerning the Mission Statement, I suggested at the last meeting that we add "funding agencies" to the third goal.
9. The policy concerning removal of board, strand coordinator and committee members was finalized and sent to Sandi Abell.
10. Strand coordinator assignments were completed. Except for strand one, due to a personal situation, all of the supporting strand coordinators were assigned to the lead position. Fouad Abd-El-Khalick graciously agreed to serve again and is the lead on strand one. I feel comfortable with this since he is a veteran coordinator. Also, I asked for names of individuals to serve with the new leads. In all cases, I followed their suggestions. The list of individuals was approved by the Board.
11. I wrote several letters for people seeking funding from their institution and also for visa applications.
12. Worked with Norm, Sandi, John, David and Marilyn to better define the roles of members of the leadership team.
13. Letters to exhibitors and vendors were sent inviting them to exhibit, be a sponsor and/or place an add. My thanks goes to Lee Meadows for her part in this process.
14. I developed an interactive ballot for a couple of individuals in remote places.

15. Committee assignments were completed. In some instances, existing committee members were replaced due to a lack of response to messages from the chairs. On three separate occasions, a message was sent to the listserv asking for volunteers. The majority of the volunteers were accommodated. I also worked closely with committee chairs to ensure that they had input into the process. Their response was appreciated. The list of committee members was approved by the Board with one abstention.
16. I worked with an artist to develop a cover for the program.
17. The process of sending letters of invitation to the Past Presidents, Editors, Distinguished Awardees and Executive Secretaries to attend a reception is almost complete.
18. I am taking Sandi Abell's place as the NARST representative to NSTA. I attended various meetings at the annual meeting in San Diego March 26 – 31, 2002. Basically, NSTA's main emphasis is on increasing membership through a variety of venues. The website now has a *scilink* component to encourage more people to become members. They are also starting a student chapter group.

Attachments include the committee membership, strand coordinators, and final policy for the removal of committee members, etc.

Respectfully submitted,

Cheryl L. Mason
NARST, President-elect

15. Committee assignments were completed. In some instances, existing committee members were replaced due to a lack of response to messages from the chairs. On three separate occasions, a message was sent to the listserv asking for volunteers. The majority of the volunteers were accommodated. I also worked closely with committee chairs to ensure that they had input into the process. Their response was appreciated. The list of committee members was approved by the Board with one abstention.
16. I worked with an artist to develop a cover for the program.
17. The process of sending letters of invitation to the Past Presidents, Editors, Distinguished Awardees and Executive Secretaries to attend a reception is almost complete.
18. I am taking Sandi Abell's place as the NARST representative to NSTA. I will attend various meetings at the annual meeting in San Diego March 26 – 31, 2002. I will update my report at the Board meeting in April.

Attachments include the committee membership, strand coordinators, and final policy for the removal of committee members, etc.

Respectfully submitted,

Cheryl L. Mason
NARST, President-elect

**NATIONAL ASSOCIATION for
RESEARCH in SCIENCE TEACHING**

STANDING COMMITTEES – 2002-2005

Policy Advisory Committee

(Immediate Past-President as Chair, 6 members)

Chair: Norman Lederman	03	<u>ledermann@iit.edu</u>
Members:		
1. Jeff Bloom	03	<u>jeff.bloom@nau.edu</u>
2. Ann Howe	03	<u>achowe@aol.com</u>
3. Ann Cavallo	04	<u>acavallo@wayne.edu</u>
4. Thomas Koballa	04	<u>tkoballa@coe.uga.edu</u>
5. David Treagust	05	<u>D.Treagust@smec.curtin.edu.au</u>
6. George DeBoer	05	<u>gdeboer@aaas.org</u>
Ex-officio: Cheryl L. Mason	03	<u>clmason@nsf.gov</u>

Financial Advisory Committee

(Chair, 5 members, Executive Secretary as Ex-officio)

Chair: Deborah Smith		<u>dsmith@lsd.k12.mi.us</u>
Members:		
1. Steve Oliver	03	<u>soliver@arches.uga.edu</u>
2. Mark Windschitl	03	<u>mwind@u.washington.edu</u>
3. Sibel Erduran	04	<u>sibel.erduran@kcl.ac.uk</u>
4. Valarie Akerson	05	<u>vakerson@indiana.edu</u>
5. Mark Volkmann	05	<u>volkmannmj@missouri.edu z</u>
Ex-officio: Cheryl Mason	03	<u>clmason@nsf.gov</u>
John Tillotson	Exec. Sec.	<u>jwtillot@syr.edu</u>

Publications Advisory Committee

(Chair, 3 members, JRST Editor, NARSTNEWS Editor, NARST Director of Electronic Services, NSTA Director of Research as Ex-officio, Editors of other major NARST publication efforts)

Chair: **Charlene Czerniak** 03 cczerni@uoft02.utoledo.edu
 Members:
 1. Roger Johnson 03 johns009@umn.edu
 2. Larry Flick 04 flickl@ucs.orst.edu
 3. Steve Gilbert 05 swgilbert@vt.edu
 4. Dale Baker JRST Editor dale.baker@asu.edu
 5. Mike Piburn JRST Editor mike.piburn@asu.edu
 6. Helen Parke NARSTNews Ed. parkeh@mail.ecu.edu
 7. Randy Yerrick NARSTNews Ed. ryerrick@mail.sdsu.edu
 8. David Zandvliet Dir. of Elect. Serv. dbz@sfu.ca
 9. (none currently) Other Eds.
 Ex-officio: Cheryl Mason 03 clmason@nsf.gov
 Patricia Simmons NSTA Res. Dir. psimmons@umsl.edu

Program Committee

(President-Elect as Chair, 2 Board Members, NARST Research Coordinator as Ex-officio, Annual Meeting Coordinator, Executive Secretary, 1 member selected by President-Elect & approved by Board)

Chair: **Andy Anderson** 03 andya@msu.edu
 Members:
 1. **to be named** 03
 2. **to be named** 03
 3. **to be named** 03
 4. David Zandvliet (Annual Meeting Coordinator)
 5. John Tillotson (Executive Secretary)
 Ex-officio: Cheryl Mason 03 clmason@nsf.gov
 Frank Crawley Res. Coord. crawleyf@mail.ecu.edu

Research Committee

(Research Coordinator as Chair, 6 members, NSTA Director of Research)

Chair: **Frank Crawley** 04 crawleyf@mail.ecu.edu
 Members:
 1. Jan VanDriel 03 driel@ICLON.LeidenUniv.nl
 2. Joan Whitworth 03 j.whitworth@morehead-st.edu
 3. Heidi Carlone 04 heidi_carlone@uncg.edu
 4. Deborah Tippins 04 dtippins@coe.uga.edu
 5. Maureen McMahon 05 mmcmahon@csulb.edu
 6. Nancy Romance 05 romance@fau.edu
 7. Patricia Simmons NSTA Dir. of Res. psimmons@umsl.edu
 Ex-officio: Cheryl Mason 03 clmason@nsf.gov

Election Committee

(Immediate Past-President as Chair, 4 members for 1-year terms, Executive Secretary as Ex-officio)

Chair: **Norman Lederman** 03 ledermann@iit.edu
 Members:
 1. Lynn Bryan 03 lbryan@coe.uga.edu
 2. Dee Goldston 03 mfrench@ksu.edu
 3. Paul Kuerbis 03 pkuerbis@cc.colorado.edu
 4. John Wallace 03 jwallace@curtin.edu.au
 Ex-officio: Cheryl L. Mason 03 clmason@nsf.gov
 John Tillotson Exec. Sec. jwtillot@syr.edu

International Committee

(Chair, 9 members with 2/3 from outside the USA, Executive Secretary as Ex-officio)

Chair: **Sharon Lynch** 03 slynch@gwis2.circ.gwu.edu
 Members:
 1. Yohisuke Kumano 03 edykuma@ipc.shizuoka.ac.jp
 2. Brian Murfin 03 murfin@acf2.nyu.edu
 3. Deborah Pomeroy 03 pomeroy@beaver.edu
 4. Chin-Chung Tsai 04 cctsai@cc.nctu.edu.tw
 5. Karen Sullenger 04 sullengr@unb.ca
 6. Ling Liang 04 Ling.l.liang@widener.edu
 7. Soo-Young Lee 05 soo-young_lee@terc.edu
 8. Lynn Bryan 05 lbryan@coe.uga.edu
 9. Saouma BouJaoude 05 boujaoud@aub.edu.lb
 Ex-officio: Cheryl Mason 03 clmason@nsf.gov
 John Tillotson Exec. Sec. jwtillot@syr.edu

JRST Award Committee

(Chair, 21 members, Executive Secretary as Ex-officio)

Chair: Jonathan Osborne	04	<u>jonathan.osborne@kcl.ac.uk</u>
Members:		
1. Danielle Ford	03	<u>djford@udel.edu</u>
2. Edith Gummer	03	<u>egummer@orst.edu</u>
3. William Newman	03	<u>wnewman@purdue.edu</u>
4. Phil Scott	03	<u>p.h.scott@education.leeds.ac.uk</u>
5. Anat Zohar	03	<u>msazohar@mscc.huji.ac.il</u>
6. Theresa Greenfield	03	<u>tag@hawaii.edu</u>
7. Maria Aleixandre	04	<u>ddmaleix@usc.es</u>
8. Anil Banerjee	04	<u>banerjee@calumt.purdue.edu</u>
9. Marcia Fetters	04	<u>marcia.fetters@utoke</u>
10. Dee Goldston	04	<u>mfrench@ksu.edu</u>
11. Helen Sorenson	04	<u>helene@dpu.dk</u>
12. Martha Dreuth-Fewell	04	<u>martha.dreuth-fewell@snc.edu</u>
13. Douglas Huffman	04	<u>huffm004@tc.umn.edu</u>
14. Carole Mitchner	04	<u>cmitchen@uic.edu</u>
15. Chris Ohana	04	<u>Chris.ohana@wwu.edu</u>
16. Renee Schwartz	04	<u>schwarre@ucs.orst.edu</u>
17. Eileen Parsons	05	<u>ecparson@gw.fix.ncsu.edu</u>
18. Hedy Moscovici	05	<u>hmoscovici@csudh.edu</u>
19. Michael Vitale	05	<u>vitale@mail.ecu.edu</u>
20. Rena Faye Norby	05	<u>renafayenorby@bhsu.edu</u>
21. Angela Calabrese-Barton	05	<u>acb33@columbia.edu</u>
Ex-officio: Cheryl Mason	03	<u>clmason@nsf.gov</u>
John Tillotson	Exec. Sec.	<u>jwtillot@syr.edu</u>

NARST Outstanding Paper Award Committee
(Chair, 21 members, Executive Secretary as Ex-officio)

Chair: Zoubeida Dagher	05	<u>zoubeida@udel.edu</u>
Members:		
1. Mustafa Cakir	03	<u>mx446@psu.edu</u>
2. April Adams	03	<u>adams001@mail.nsuok.edu</u>
3. Brian Foley	03	<u>bfoley@caltech.edu</u>
4. Rola Khishfe	03	<u>Khisrol@iit.edu</u>
5. Jim McDonald	03	<u>jimmc@purdue.edu</u>
6. Nancy Roberts	03	<u>nroberts@lesley.edu</u>
7. Janice Wilson	03	<u>zwilsons@hotmail.com</u>
8. Eric Hagedorn	04	<u>jste@uwm.edu</u>
9. Joanne Olson	04	<u>jkolson@iastate.edu</u>
10. John Penick	04	<u>John_Penick@ncsu.edu</u>
11. Lee Matthews	04	<u>matthewsl@iit.edu</u>
12. Meta Van Sickle	04	<u>vansicklem@cofc.edu</u>
13. Jonathan Singer	04	<u>jsinger@gwm.sc.edu</u>
14. Lorie Hammond	04	<u>lhammond@csus.edu</u>
15. Cory Buxton	05	<u>cbuxton@uno.edu</u>
16. Carolyn Parker	05	<u>cparker@umbc.edu</u>
17. Yvette Greenspan	05	<u>teachc6@worldnet.net</u>
18. Tahsin Khalid	05	<u>tahsinkhalid@hotmail.com</u>
19. Ron Bonnstetter	05	<u>rjb@unlserve.unl.edu</u>
20. Carol Brandt	05	<u>cbrandt@unm.edu</u>
21. Dianne Anderson	05	<u>danderso@sunstroke.sdsu.edu</u>
Ex-officio: Cheryl Mason	03	<u>clmason@nsf.gov</u>
John Tillotson	Exec. Sec.	<u>jwtillot@syr.edu</u>

Distinguished Contribution through Research Award Committee
(Chair, 6 members, Executive Secretary as Ex-officio)

Chair: William Cobern	04	<u>bill.cobern@wmich.edu</u>
Members:		
1. Fouad Abd-El-Khalick	03	<u>fouad@uiuc.edu</u>
2. Anita Roychoudhury	03	<u>roychoudhury.4@osu.edu</u>
3. Bruce Waldrip	04	<u>b.waldrip@bendigo.latrobe.edu.au</u>
4. René Schwartz	04	<u>schwarre@ucs.orst.edu</u>
5. Rick Duschl	05	<u>richard.duschl@kcl.ac.uk</u>
6. Avi Hofstein	05	<u>nthofstn@wisemail.weizmann.ac.il</u>
Ex-officio: Cheryl Mason	03	<u>clmason@nsf.gov</u>
John Tillotson	Exec. Sec.	<u>jwtillot@syr.edu</u>

Early Career Research Award Committee
(Chair, 6 members, Executive Secretary as Ex-officio)

Chair: J. Randy McGinnis	04	jm250@umail.umd.edu
Members:		
1. Barbara Crawford	03	bac21@psu.edu
2. Kathy Frame	03	kframe@biotechinstitute.org
3. Jennifer Snyder	04	snyderj@umkc.edu
4. Dana Zeidler	04	zeidler@tempest.coedu.usf.edu
5. Scott Jackson Dantley	05	sdantley@temple.edu
6. Hsiao-lin Tuan	05	suhtuan@cc.ncue.edu.tw
Ex-officio: Cheryl Mason	03	clmason@nsf.gov
John Tillotson	Exec. Sec.	jwtillot@syr.edu

Outstanding Doctoral Research Award Committee
(Chair, 9 members, Executive Secretary as Ex-officio)

Chair: Gail Richmond	05	gailr@msu.edu
Members:		
1. Andrea McLoughlin	03	amclough@liu.edu
2. Ryda Rose	03	rydar@earthlink.net
3. Deb Tomanek	03	dtomanek@u.arizona.edu
4. Larry Enochs	04	enochsl@ucs.orst.edu
5. Yvonne Meichtry	04	meichtryy@nku.edu
6. Doris Ash	04	dash5@cats.ucsc.edu
7. William Veal	05	wveal@email.unc.edu
8. Donna Ross	05	dross@mail.sdsu.edu
9. Julie Bianchini	05	jbianchi@education.ucsb.edu
Ex-officio: Cheryl Mason	03	clmason@nsf.gov
John Tillotson	Exec. Sec.	jwtillot@syr.edu

Outstanding Master's Research Award Committee

(Chair, 9 members, Executive Secretary as Ex-officio)

Chair: Gail Richmond	05	<u>gailr@pilot.msu.edu</u>
Members:		
1. Alan McCormack	03	<u>amccorma@mail.sdsu.edu</u>
2. Saouma Boujaoude	03	<u>boujaoud@aub.edu.lb</u>
3. Anuradha Dujari	03	<u>profradha@juno.com</u>
4. David Crowther	04	<u>crowther@unr.edu</u>
5. Richard Iuli	04	<u>riul@mail.rochester.edu</u>
6. Kathy Norman	04	<u>knorman@coyote.csusm.edu</u>
7. Leigh Ann Haefner	05	<u>ahaefner@ncsu.edu</u>
8. Bao Hui Zhang	05	<u>bhzhang@wmich.edu</u>
9. Gail Jones	05	<u>gjones@email.unc.edu</u>
Ex-officio: Cheryl Mason	03	<u>clmason@nsf.gov</u>
John Tillotson	Exec. Sec.	<u>jwtillot@syr.edu</u>

Membership Committee

(Chair, 5 members with at least 1 international member, Executive Secretary as Ex-officio)

Chair: J. Randy McGinnis	04	<u>jm250@umail.umd.edu</u>
Members:		
1. Laura Barden	03	<u>lm-barden@wiu.edu</u>
2. Jazlin Ebenezer	04	<u>jebenezer@wayne.edu</u>
3. Holly Priestly	04	<u>hip@psu.edu</u>
4. Maureen McMahan	05	<u>mcmahan@csulb.edu</u>
5. Rick Pomery	05	<u>jrpomery@ucdavis.edu</u>
Ex-officio: Cheryl Mason	03	<u>clmason@nsf.gov</u>
John Tillotson	Exec. Sec.	<u>jwtillot@syr.edu</u>

Equity Committee
(Chair, 9 members)

Chair: Alberto Rodriguez	03	albertor@nmsu.edu
Members:		
1. Steve Fifield	03	fifield@udel.edu
2. Will Letts	03	wletts@csu.edu.au
3. Rena Faye Norby	03	renafayenorby@bhsu.edu
4. Judith Sweeney	04	ledermanj@iit.edu
5. Obed Norman	04	norman@vancouver.wsu.edu
6. Andrew Gilbert	04	agilbert@nmsu.edu
7. Pauline Chinn	05	chinn@hawaii.edu
8. Aldrin E. Sweeney	05	asweeney@pegasus.cc.ucf.edu
9. Lori Hammond	05	lhammond@csus.edu
Ex-officio: Cheryl Mason	03	clmason@nsf.gov

AD HOC COMMITTEE – 2003

Practitioner Research Committee

Co-Chairs: Emily van Zee	03	evz@wam.umd.edu
Deborah Roberts	03	Deborah_Roberts@fc.mcps.k12.md.us
Members:		
1. Mary Bell	03	mpbell4112@aol.com
2. Allen Feldman	03	afeldman@educ.umass.edu
3. Monica Hartmann	03	mlhartma@umich.edu
4. Chris Horne	03	crhorne@earthlink.net
5. Elaine Howes	03	evh5@columbia.edu
6. Chin-Tang Liu	03	chin-tang.liu@temple.edu
7. Connie Nissley	03	cnissley@earthlink.net
8. Kathleen Roth	03	kathyr@lessonlab.com
9. Jim Minstrell	03	jimminstrell@talariainc.com
10. Deborah Smith	03	debsmith@pilot.msu.edu
11. Maria Varelas	03	mvarelas@mailserv.cc.uic.edu
12. Daniel Dickerson	03	didicker@unity.ncsu.edu
13. Brenda Capobianco	03	bcapo@educ.umass.edu

2003 Strand Coordinator Information

Strand	Coordinator	Coordinator
1 Learning: Students' Conceptions	Fouad Abd-El-Khalick University of Illinois at Urbana-Champaign 311 Education Building 1310 South 6 th Street Champaign, IL 61820 Phone: 217-244-1221 Fax: 217-244-4572 fouad@uiuc.edu	David Brown University of Illinois Department of C & I 1310 S. Sixth St. Champaign, IL 61820 Phone: 217-333-0663 FAX : 217-244-4572 debrown@uiuc.edu
2 Learning: Classroom Contexts	Darrell Fisher Curtin University of Technology Science and Math Education Centre GPO BOX U 1987 Perth, WA 6845, Australia Phone: 61-8-9266-3110 Fax: 61-8-9266-2503 d.fisher@smec.curtin.edu.au	Valarie Akerson Indiana University School of Education, C & I 201 North Rose Bloomington, IN 47405-1006 Phone: 812-856-8140 FAX: 812-856-8116 vakerson@indiana.edu
3 Teaching	Julie Gess-Newsome Northern Arizona University SMLC – Box 5697 Flagstaff, AZ 86011-5697 Phone: 928-523-9527 Fax: 928-523-7953 Julie.gess-newsome@nau.edu	Joanne Olson Iowa State University N157 Lagomarcino Hall Ames, IA 50011-3190 Phone: 515-294-3315 FAX: 515-294-6206 jkolson@iastate.edu
4a Teacher Education (Pre- service)	Elaine Howes Teachers College –Columbia 525 west 120 th St., BOX 210 412B Main Hall New York, NY 10027-6696 Phone: 212-678-3384 Fax: 212-678-8129 howes@exchange.tc.columbia.edu	Paula Lane University of North Carolina at Chapel Hill School of Education Peabody Hall, CB#3500 Chapel Hill, NC 27599 Phone: 919-962-9376 FAX: 919-962-9374 pilane@email.unc.edu
4b Teacher Education (In-service)	Barbara Crawford The Pennsylvania State University 171 Chambers Building College of Education University Park, PA 16802 Phone: 814.865.2184 FAX: 814.863.7602 bac21@psu.edu	Andrew Lumpe Southern Illinois University Carbondale Department of Curriculum & Instruction Carbondale, IL 62901-4611 Phone: 618.453.4215 FAX: 618.453.8093 alumpe@siu.edu
5 Curriculum , Evaluation, Assessment	Julie Libarkin Harvard College Observatory 60 Garden Street MS 71 Cambridge, MA 02138 Phone: 617-496-4795 Fax: 617-496-5405 jlibarki@cfa.harvard.edu	Kathy Trundle Ohio State University The Ohio Resource Center 1929 Kenny Road Columbus, OH 43210 Phone: 614-247-6342 FAX: 614-292-2066 ktrundle@ohiorc.org

6 Cultural, Social, Gender Issues	Leslie Sandra Jones University of Northern Iowa Department of Biology 1447 McCollum Science Hall Cedar Hills, IA 50614-0421 Phone: 319-273-7153 Fax: 319-273-7125 leslie.jones@uni.edu	Gaell Hildebrand Learning & Educational Develop. Education University of Melbourne Parkville, Vic. 3010, Australia Phone: 61-3-8344-8442 g.hildebrand@unimelb.edu.au
7 Educational Technology	Larry Flick Oregon State University Department of Science and Mathematics Education, 239 Weniger Hall Corvallis, OR 97331-6508 Phone: 541-737-3664 Fax: 541-737-1817 flickl@ucs.orst.edu	Randy Bell University of Virginia 405 Emmet Street South Box 400273 Charlottesville, VA 22904-4273 Ph. 434-924-1380, FAX: 434-924-0747 randybell@virginia.edu
8 History, Philosophy	Saouma Boujaoude American University, Beirut Science and Math Education 850 3 rd Ave, 18 th Floor New York, NY 10022 Phone: 961-1-350-000X3094 Fax: 961-1-747-578 boujaoud@aub.edu.lb	Norman Lederman Illinois Institute of Technology Dept. of Mathematics and Science Education 226 Engineering 1 10 W. 32 nd Street Chicago, IL 60616 Phone: 312-567-3658 FAX: 312-567-3659 ledermann@iit.edu
9 Informal Learning	Patricia Simmons University of Missouri-St. Louis Rise, 8001 Natural Bridge Rd St. Louis, MO 63121-4499 Phone: 314-516-5794 Fax: 314-516-7025 psimmon@umsl.edu	Chris Andersen NASA Classroom of the Future 947 E. Johnstown Road PMB 222 Gahanna, OH 43230 Phone: 740-366-9304 andersen@cotf.edu
10 College Science Teaching	Harry Shipman University of Delaware Physics & Astronomy Department Newark, DE 19716-2570 Phone: 302-831-2986 Fax: 302-831-1637 harrys@udel.edu	Bill Donovan East Carolina University Department of Chemistry Greenville, NC 27858 Phone: 252-328-4187 donovanw@mail.ecu.edu

AGENDA
NARST 2002 Spring Board of Directors Meeting, Second Session
April 10, 2002 New Orleans, LA

1. **Welcome New Board Members**
(Andy Anderson, Deb Smith, Zoubeida Dagher, Gail Richmond)
2. **Minutes** (first session of the board meeting) – John Tillotson
3. **President's Report** – Cheryl Mason
4. **Past President's Report** – Norm Lederman
5. **President-elect's Report** – Andy Anderson
6. **Program Committee Report** – Andy Anderson
7. **Executive Secretary's Report** – John Tillotson
8. **Reports from Standing Committees:**
 - A. Policy Advisory – Norm Lederman
 - B. Financial Advisory – Deb Smith
 - C. Publications Advisory – Charlene Czerniak
 - D. Research – Frank Crawley
 - E. Election – Norm Lederman
 - F. International – Sharon Lynch
 - G. JRST Award – Jonathan Osborne
 - H. NARST Outstanding Paper Award – Zoubeida Dagher
 - I. Distinguished Contributions through Research Award – Bill Cobern
 - J. Early Career Research Award – Randy McGinnis
 - K. Outstanding Doctoral Research Award – Gail Richmond
 - L. Outstanding Masters Research Award – Gail Richmond
 - M. Membership – Randy McGinnis
 - N. Equity – Alberto Rodriguez
9. **Reports from Ad Hoc Committee** – Emily van Zee & Deborah Roberts
10. **Other Reports:**
 - JRST Editors – Dale Baker & Mike Piburn
 - Representatives of NARST to other Societies:
 - Section X, AAAS – Marcia Linn
 - AAAS Affiliates Meeting –
 - National Science Teachers Association – Patricia Simmons
 - ICASE – Sharon Lynch
11. **New Business**
12. **Fall Board Meeting**
 - October 11-12, 2003 Wyndham Franklin Plaza Hotel; Philadelphia, PA
 - Plan to arrive early enough to begin dinner and the meeting (5:00P – 10:00P).
 - You can leave anytime on Sunday, October 13th.
 - Andy will set the next board meeting date as soon as possible.

NARST Program Committee Report - March 2002

Committee Members:

Cheryl Mason, President-Elect
David Zandvliet, Annual Meeting Coordinator
John Tillotson, Executive Secretary
Norman Lederman, President
Charlene Czerniak, Member
Bill Cobern, Member
Steve Gilbert, Member
Frank Crawley, Member

The program committee worked hard to produce this years' program along the theme 'Research, Policy, Practice: Creating a Voice for the Profession.' Overall, the 2002 program is a substantial one with 175 concurrent sessions and 527 individual papers or symposia being presented over the four days of the annual meeting. The acceptance rate for papers this year was about 70% (significantly lower than last year) due to the high number of proposals received. As in other years, the program reflects the international flavour of the NARST membership and features presentations from many different countries.

Submission and Review Process

This year marked the first year of an essentially all-electronic submission and review process for NARST (only 8 proposals were received in traditional paper format). This was also my first year in the job of Annual Meeting Coordinator and there was a fairly steep learning curve. I began the year working with a web designer on my staff (Carson Au) to design and implement the new NARST on-line submission process, although there were some glitches initially, the new submission process was well received and we managed to process a great many proposals (approximately 750). We then worked to create a web-based index of proposals by strand to facilitate the review process for strand coordinators which followed.

Extraordinary events impacted the normal timelines associated with the submission and review process this year. Initially, submission deadlines of August 1st and 15th were set for the paper and electronic proposals respectively. Delays in receiving NARST funds at SFU meant that initially, additional staff could not be hired to help in the process. This in turn led to delays in getting the new proposal submission site up and running. It was decided that the deadline for proposals would be extended by a month – this was further impacted by the events of September 11th which further pushed back timelines in the process. Despite these delays, the strand coordinators worked hard to expedite the review process and we had a draft program complete and posted on the web by December 2001.

Moving to an essentially all electronic format also had the effect of moving much of the administrative burden of the proposal review process to the AMC from the strand coordinators. These duties included error checking for proposals submitted on-line, matching proposals to 'cover sheet' data and generally getting the proposals in shape for review. This task proved to be the largest undertaking in the review process involving thousands of pieces of correspondence. Many proposers were unfamiliar with the new process and made errors in their proposals. I believe that next year the process will be further streamlined by making a few minor technical improvements to the proposal site and making directions on the site more explicit for proposers.

NARST Program Committee Report - March 2002

Pre-Conference Workshops

Two pre-conference workshops being selected for offer prior to the annual meeting, these were:

-Macro and Micro Methods in Research on the Teaching and Learning of Science

Kenneth Tobin, University of Pennsylvania & Wolff-Michael Roth, University of Victoria

-Inquiring into One's Own Teaching Practices

Emily van Zee, University of Maryland & Deborah Roberts, Montgomery County Public Schools;

Papers by Strands

This year, the number of concurrent sessions in the program were limited by the available space booked at the hotel. The following table lists the number of proposals accepted in by strand relative to other years:

Strand	2002 Strand Coordinators	1999 Meeting	2000 Meeting	2001 Meeting	2002 Meeting
1	Hedy Moscovici Mansoor Niaz	75	84	70	68
2	Lynn Bryan Darrel Fisher	52	58	40	52
3	Thomas Andre Julie Gess-Newsome	40	39	36	45
4	Emily van Zee Elaine Howes	96	106	124	a) 58
--	Dee Goldston Barbara Crawford	--	--	--	b) 52
5	Julie A. Luft Julie Libarkin	53	41	61	49
6	Mark Volkmann Leslie Jones	32	43	41	56
7	Mark Windschitl Larry Flick	49	38	47	43
8	Fouad Abd-El-Khalick Saouma Boujaoude	34	43	29	20
9	Amy Cox-Petersen Patricia Simmons	16	24	32	31
10	Mary Nakhleh Harry Shipman	39	50	47	53
<i>total</i>		<i>486</i>	<i>526</i>	<i>527</i>	<i>527</i>

Presiders /Discussants

At the time of this report, there were few NARST members who had come forward to act as presiders and so assignments to sessions had not yet been made in time to publish these in the NARST Final Program. Discussants were assigned to sessions where requests were made by the proposers and when the individuals were available and agreed to participate.

NARST Program Committee Report - March 2002

Special or Invited Sessions

In addition to the above, there are four special sessions in this years' program, they are:

- 1.01 - Discussion, Suggestions and Ideas for Manuscript Reviewers (*JRST* Editorial Workshop)
- 1.15 - From Submission to Publication: A Guide To Publishing In the Journal: *Science Education*
- 2.01 - International Science Teacher Education Policy: Supply, Demand and Teacher Quality (ICASE)
- 9.12 - Transition from Graduate Student to Junior Faculty (sponsored by the membership committee)

General Sessions

Two general sessions were planned for this years' annual general meeting, these are:

--Plenary Session Number One - Marilyn Cochran-Smith, Boston College
Research and Teacher Education: Making the Connection

--Plenary Session Number Two - David C. Berliner, Arizona State University
How the ignorance of the business community hurts education

Conference Session Formats

Despite recent efforts to broaden the range of session formats offered in the program, this year reflected a relatively similar breakdown of session formats relative to last year. The table below lists the types of formats available and their relative use in the program over the past two years:

Session Format	No. sessions (2001)	No. sessions (2002)
Paper Session Organized by Committee	61	85
Discussion group	2	2
Symposium	24	36
Multiple Paper Set	24	27
Round Table	3	3
Novel Format	13	7
Interactive Poster	15	12
Poster	1	1

Recommendations

- 1) That NARST continue to improve on and encourage the electronic submission and review of proposals. The current format could be enhanced by automated error checking and enhancements to the review process (eg. the automatic naming of proposals, autoword counts for abstracts, etc.).
- 2) That the number of accepted proposals and the size of the NARST program be reviewed in light of the current membership numbers and the budget allocated to the conference. What acceptance rate for proposals is acceptable or optimal?
- 3) That further efforts are made to broaden the types of session formats presented at the NARST annual general meeting. In particular, novel formats, discussion groups and interactive poster sessions should be encouraged. Also, additional formats such as the 'Multimedia Equity Room' should be encouraged.

NARST Program Committee Report - March 2002

- 4) That NARST undertake to produce a Proceedings beginning with the 2002 conference. Many NARST members have enquired as to this possibility and it seems feasible given the electronic nature of the proposal and review process. This option would add significantly to the current practice of posting a selection of papers on the web (I will provide a full proposal for this recommendation at our meeting)

**NARST EXECUTIVE SECRETARY'S REPORT
JOHN W. TILLOTSON**

National Association for Research in Science Teaching Annual Meeting
New Orleans, LA
April 7-10, 2002

Minutes of the NARST Fall 2001 Board Meeting

The minutes of the NARST 2001 Fall Board of Directors Meeting held October 19-20, 2001 at the Hyatt Regency in New Orleans, LA can be found in a separate section of the Board Book. Once approved, an abbreviated summary of the minutes containing only the action items resulting from the various motions voted on by the NARST Board of Directors will be posted on the NARST website.

Norm Lederman has also received copies of the minutes prepared by David Haury for previous NARST Board Meetings which are located in the Board Book as well.

NARST Membership Figures

As of March 7, 2002, the NARST membership figures by category for 2002 are as follows:

<u>Membership Category</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Regular with <i>JRST</i>			824
Student with <i>JRST</i>			230
Student without <i>JRST</i>			76
Emeritus with <i>JRST</i>			21
Emeritus without <i>JRST</i>			25
Sustaining			4
TOTAL			1180

A more detailed summary including past years' figures and international member totals will be included in the final report for the Board Book.

NARST Monograph Sales and Inventory

As of March 7, 2002, these are the figures concerning the NARST Monograph sales and inventory housed at the University of Missouri-Columbia.

<u>Title/Publication Date</u>	<u>Inventory</u>	<u>Requests since 09/01/01</u>	<u>Price</u>
Monograph No. 1, 1989	1 (display)	2	\$6.00
Monograph No. 2, 1989	48	1	\$6.00
Monograph No. 3, 1991	57	1	\$6.00
Monograph No. 4, 1991	444	1	\$8.50
Monograph No. 5, 1992	351	6	\$8.00
Monograph No. 6, 1995	44	1	\$15.00
Monograph No. 7, 1995	1 (display)	1	\$15.00

NARST 2002 Election Results

The Executive Secretary prepared a NARST 2002 election ballot and a biographical sketch of the individual candidates running for office. These materials were sent to the Chair of the Elections Committee, Sandi Abell, for final approval prior to being mailed out to NARST members. The ballot erroneously lacked a return date deadline so the decision was made by NARST President Norm Lederman and Elections Committee Chair Sandi Abell to extend the ballot mailing deadline until March 1, 2002 to allow both US and international members additional time to get their votes sent in. There was some concern expressed by various NARST Board Members that the mail system was extremely slow this year resulting in significant delays in the time it took for international members of NARST to receive and return ballots. Norm Lederman acknowledged this problem and agreed to address it with the NARST Board at the spring Board of Directors meeting in New Orleans. It should be noted that there were a substantial number of international ballots received by our office at Syracuse University based on the post markings on the envelopes. In some cases, secured electronic versions of the ballot were sent to NARST members based on unusual circumstances such as sabbatical leaves and international travel.

Overall, a total of 331 ballots were received which appears to be a figure consistent with the number returned in recent years according to the reports in the NARST Board Books. The winners of the election included: Charles (Andy) Anderson (NARST President-elect); Zoubeida Dagher (NARST Board of Directors); Gail Richmond (NARST Board of Directors); and Deborah Smith (NARST Board of Directors).

The unsuccessful candidates in the election were: Gail Jones (nominee for NARST President-elect); David Jackson (nominee for NARST Board of Directors); Greg Kelly (nominee for NARST Board of Directors); and Mike Smith (nominee for NARST Board of Directors).

NARST Financial Investments

In 2001, the previous Executive Secretary, David Haury, invested on behalf of NARST an amount close to \$50,000 in a 1-year stock market CD account. This is similar to a bank CD account that pays interest so the risk was minimal. The rate of return a year ago was 6.4% so it was a smart move that made a profit for NARST in a safe manner. The account was worth approximately \$55,500 as of March 1, 2002.

Because these type of accounts are now paying just 1.8% annually given the current economic situation in the U.S., David Whitesmith at American Express Financial Services suggested that NARST consider other options for that money. Of the approximately \$55,500 total, \$12,012 is committed until December 3, 2002 to remain in the current stock market CD account. The remaining balance of \$43,400 was free to be invested as the Board saw fit.

David Whitesmith suggested that NARST reinvest the available balance in Flex Savings Certificates that have no cost upfront or liquidation fees as long as the funds are invested for a minimum of twelve months. Ten percent of the money can be accessed at any time with no penalty. They have absolutely no risk to the principal invested, but have average annual yields of 3-4% and they can be purchased in staggered amounts from 6 months to 18 months. Whitesmith felt strongly that this option would net a higher yield for NARST in the months ahead with the assurance of knowing that the principal is safe no matter what happens to the stock market. Whitesmith also suggested that NARST consider taking a small portion of the funds, such as \$5,000, and invest the money in equity stocks which would be riskier, but most

likely produce a higher annual yield. Since the money NARST has invested with American Express is undesignated money that has no specific budget assignment attached, he felt it might be worth taking a risk with such a small portion of the overall balance.

Thus, based on David Whitesmith's financial advice, the Executive Secretary Tillotson made a motion which was seconded by Cheryl Mason that the NARST Board make the following investments:

1. Of the \$43,400 available at the present time, invest \$5,000 in equity stocks as chosen by the NARST financial advisor David Whitesmith in consultation with the Executive Secretary and NARST Board. While there is a risk of losing principal, the prospects for higher annual yields are strong.
2. Take the remaining balance of approximately \$38,400 and divide it equally into three portions of about \$12,800 which would be invested in three separate Flex Savings Certificates that would mature at 6 months, 12 months and 18 months respectively. These certificates have no risk to principal and will likely yield between 3-4% annually. The staggering allows for variations in the federal interest rates and enables NARST to access portions of the money, if needed, without paying an early withdrawal penalty on the entire amount.
3. In December 2002, when the \$12,012 that is currently committed in the stock market CD account comes available, NARST should consider purchasing another Flex Savings Certificate or possibly investing that money in additional equity stocks based on the Board's feeling at that time.

An electronic vote was held and the motion passed. Tillotson advised Whitesmith to act on the above recommendations on March 1, 2002.

John Wiley & Sons, Inc. Publishers- Concerns about *JRST* Subscription Numbers

Colette Bean, Senior Editor, and Rebecca Morton, Marketing Director, at Wiley Publishing contacted the Executive Secretary in January 2002 to discuss the downward trend in *JRST* subscription rates over the past 2-3 years and what strategies that Wiley and NARST could collaborate on to boost membership numbers. According to Bean's figures, *JRST* subscriptions over the past five years were as follows:

2001	1292
2000	1606
1999	1582
1998	1845
1997	1421

Based on our strategy discussions, Wiley will take the following three steps to possibly increase both our NARST membership figures and the overall subscriptions to *JRST*:

1. Wiley will now include on the inside back pages of the journal a description of the NARST organization and its mission, along with a NARST membership form that includes the website address and contact information for the organization. Most other professional journals already include a membership form for the sponsoring organization as a recruiting tool.

2. Wiley's marketing department will create an advertising page describing the NARST organization and the *JRST* publication. They will begin publishing this ad in some of the other professional journals that Wiley is responsible for. Primarily these will be targeted at scientific and educational organizations that might conceivably have an interest in joining NARST and receiving *JRST* but may not be aware that either exists. This advertising will be done at no cost to NARST.
3. Wiley will send either an e-mail or letter via ground mail to all of the previous NARST members from 2000 and 2001 who did not renew their subscription in 2002 to invite them to renew and start receiving the *JRST* journal again along with the other membership benefits. Again, this will be done at no cost to NARST.

In accordance with this agreement, the Executive Secretary and Marilyn Estes made sure that an updated NARST membership form for 2002 was included on the website, in the *NARSTNews* newsletter and on the NARST Annual Conference registration document so that individuals would have easy access to the form. Membership renewal reminders were also sent out over the NARST listserv.

NARST 2002 Annual Conference Registrations- Preliminary Figures

As of March 6, 2002, there have been about 400 registrations estimated by Marilyn Estes. A more detailed breakdown of these figures will be presented at the Board Meeting in April.

After much discussion between the Annual Meeting Coordinator (Zandvliet), the Executive Secretary (Tillotson) and the NARST Presidential team (Lederman, Abell, and Mason), the decision was made to increase the advance registration fee for the conference to \$150 to offset the higher costs associated with this year's meeting. This decision was hampered by the lack of current budget figures during the transition of financial responsibilities from OSU to Missouri.

CSSP Membership Dues

CSSP contacted the Executive Secretary in January to inquire as to whether or not NARST intended to remain a member for 2002 because they had not received NARST's \$750 dues. While our continuing NARST membership in CSSP was discussed, a formal decision to withdraw was not voted on so NARST President Lederman asked Tillotson to contact CSSP and advise them that the NARST dues would be sent promptly. Estes then processed the payment paperwork for the CSSP dues.

Billing Issues with Hyatt Regency New Orleans

Following the NARST Fall Board Meeting in New Orleans in October 2001, the Hyatt Regency Hotel had problems generating an accurate bill for the cost of the rooms for this meeting. The hotel had significantly overcharged Charlene Czerniak for her personal room expenses and had billed NARST for the complimentary suite provided for President Lederman. As a result, the invoices sent to Estes at Missouri for payment were incorrect on two separate occasions during the negotiation process concerning the final payment. At one point, a hotel accounting supervisor, Henry Kleinfelt, contacted Estes and Tillotson by phone and threatened to rescind the NARST open account credit line with the hotel for the spring annual meeting if the bill from the fall wasn't paid immediately. Tillotson informed Kleinfelt

that NARST was eager to pay the bill, but was unable to do so because of the Hyatt's continued mistakes with the billing invoice. Kleinfelt corrected the billing errors shortly thereafter, and Estes was able to successfully process the payment paperwork.

Miscellaneous Items

Any additional miscellaneous items will be brought to the Board Meeting in April.

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

Overview of Submissions:

The following data has been collected based on manuscripts sent to the new editors from either manuscripts forwarded from the former editors or independent author submissions. This information does not include manuscripts that entered the review process under the former editors nor does it represent "transitioned" submissions that were completed under the new editorship.

A breakdown of the number and types of manuscripts received during the first year under the new editorship was analyzed for trends in peak periods, research interest areas and decisions. A month-by-month analysis (*Figure I*) illustrates that manuscript submissions peaked in April and steadily declined throughout the summer months. A steady number of submissions occurred during the holiday season. The two slowest months of 2001 were January and March.

The following summary highlights the types of manuscripts that were received for January-December 2001:

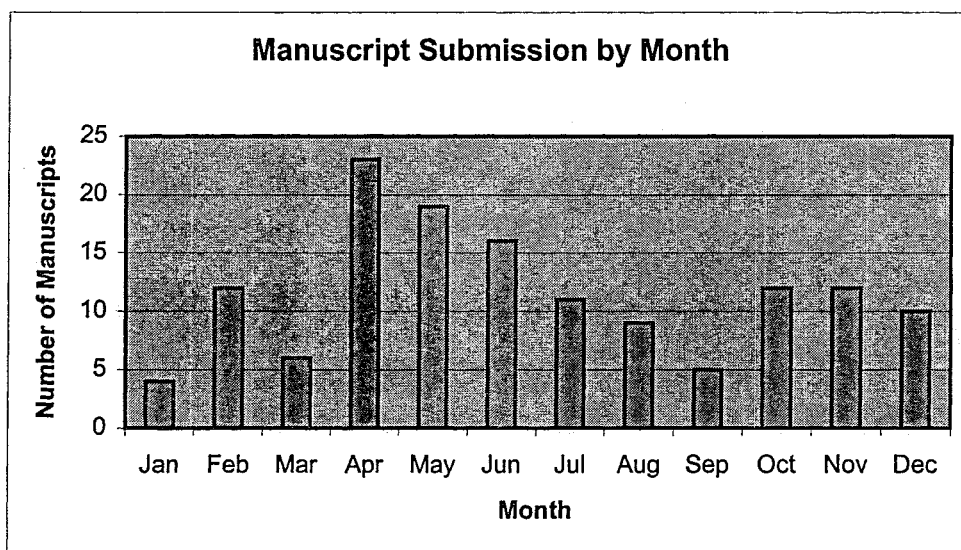


Figure I. Distribution of manuscript submissions by month

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

International Representation

Almost 34% of submissions were sent from foreign countries. Canada (*Figure 2*) represents the most (21%) of all international submissions. Of the 47 international manuscripts, 21 different countries are represented. Forty countries have 1-2 submissions each and are represented in the "Other" 37%.

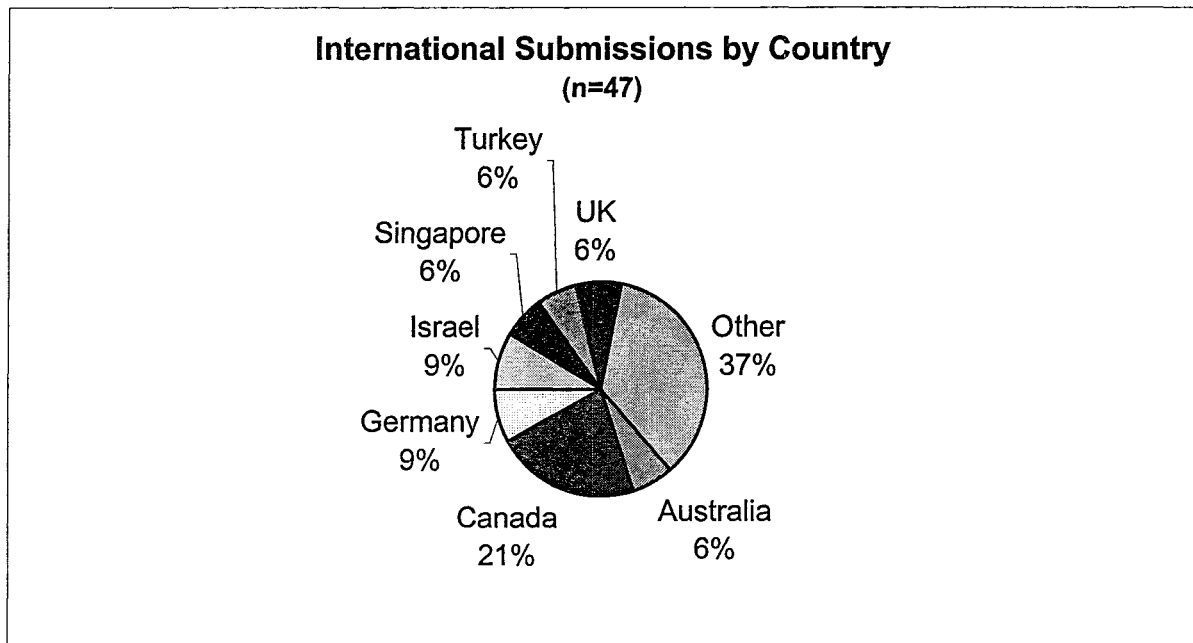


Figure 2. International Representations

Interest Areas

Research topics that have been included varied according to researcher interests regarding grade levels, methodology and content and focus areas. Information was gathered based on keyword searches in the titles of submitted manuscripts.

Grade Level (*Figure 3*)

Most grade-level research is focused on the elementary and secondary grade levels. Some college and university levels were represented, yet pre-school, post-secondary (not including college), and adult education were not.

Methodology

Ten assessment and evaluation methodologies manuscripts were submitted. The number of qualitative and quantitative data is not available. This was the only form of methodology found on the keyword search.

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

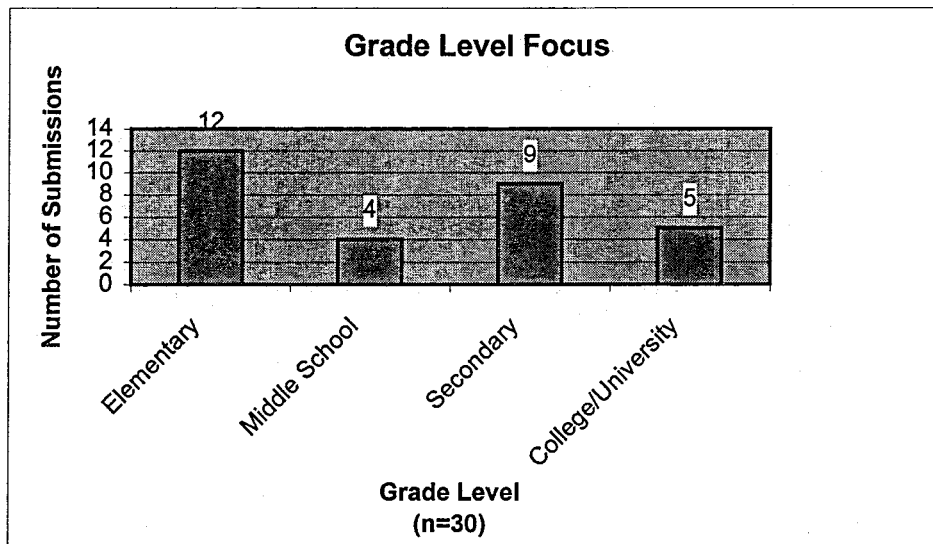


Figure 3. Grade Level Interests

Content Area (Figure 4)

Chemistry and Physics are the most common content area submissions and both Astronomy and Engineering were not represented.

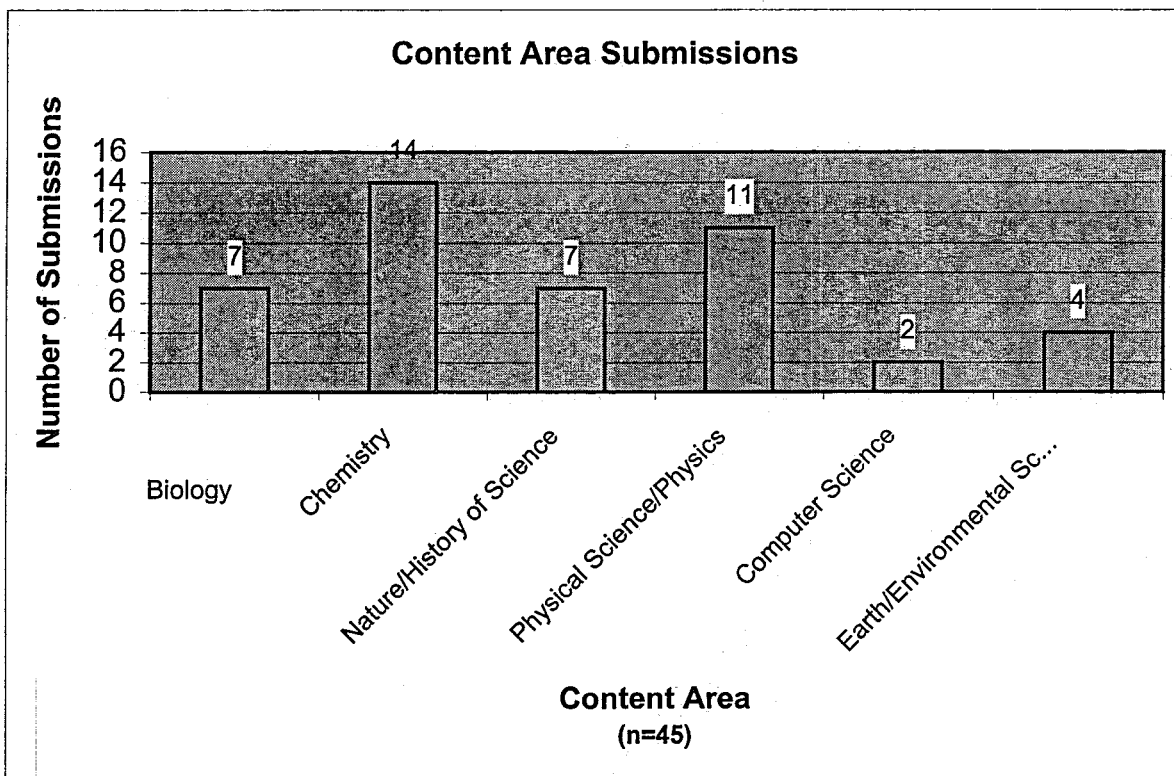


Figure 4. Current Content Area Interests According to Manuscript Titles

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

Focus Areas (Figure 5)

The most common focus area submissions included (a) teacher education, teacher knowledge and beliefs, and teacher research and (b) teaching and learning, learning theories and models of teaching. Topics that were not included were classroom environments, international education, special education, values and ethics and moral reasoning. There may be some overlap or misrepresentation in some of the data, as each submission is not catalogued according to topic.

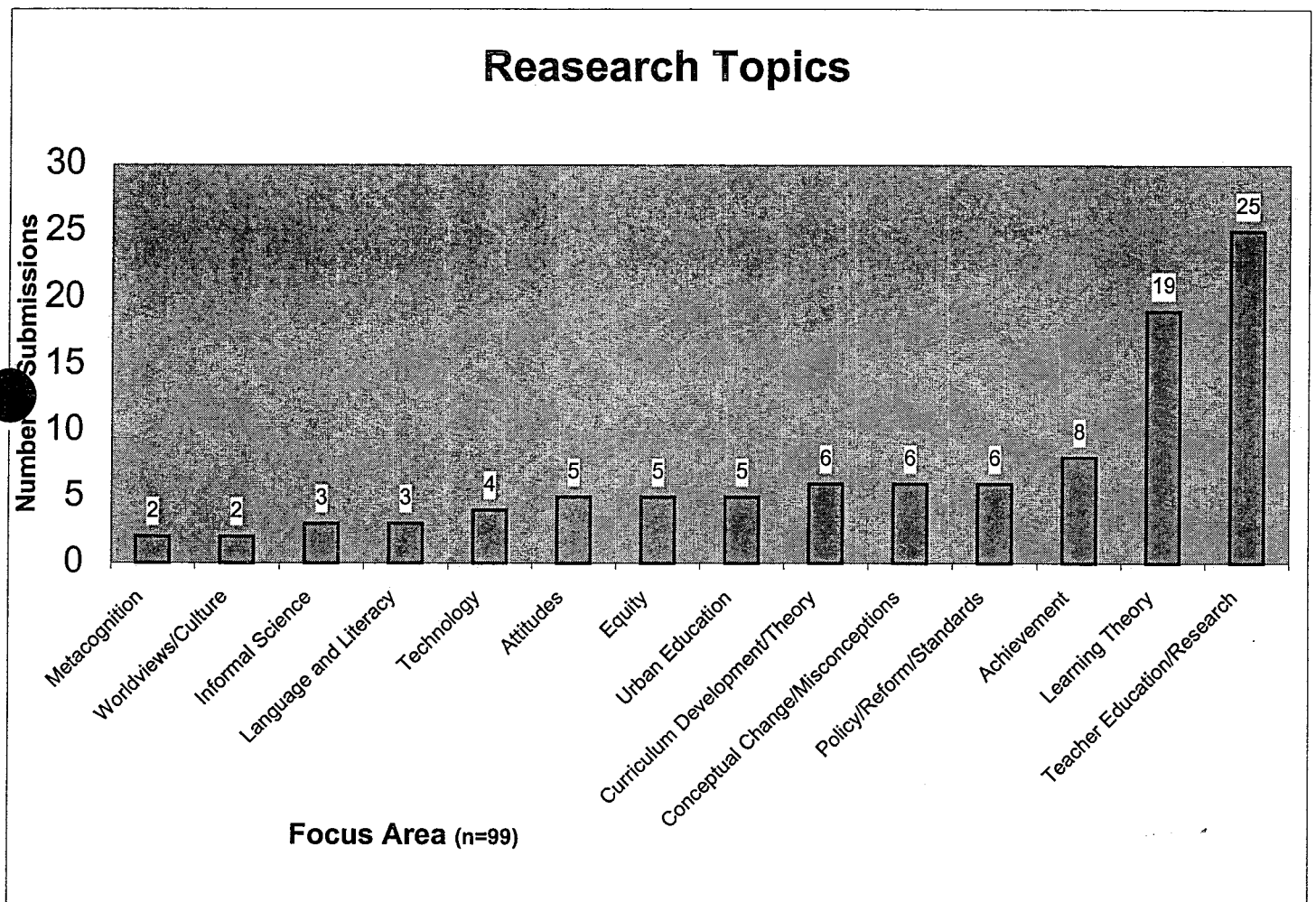


Figure 5. Current Research "Hot Topics"

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

Decision Analysis

A total of 139 new manuscripts were received in 2001. Resubmitted manuscripts that were originally reviewed under the former editors were considered new submissions under the new editorship. Revised and accepted manuscripts under the former editors that transitioned to the new editors are not represented in this data. Ninety-four manuscripts completed the entire review process. The current acceptance rate is 17% and 50% of all manuscripts were rejected. There are 32% currently under review, which includes 2 manuscripts that were resubmitted and are therefore considered “under review”. A decision to “reject but encourage” (RBE) was previously assigned, but was not included in the 26 “RBE”. Including these would increase the rejection rate to 55%.

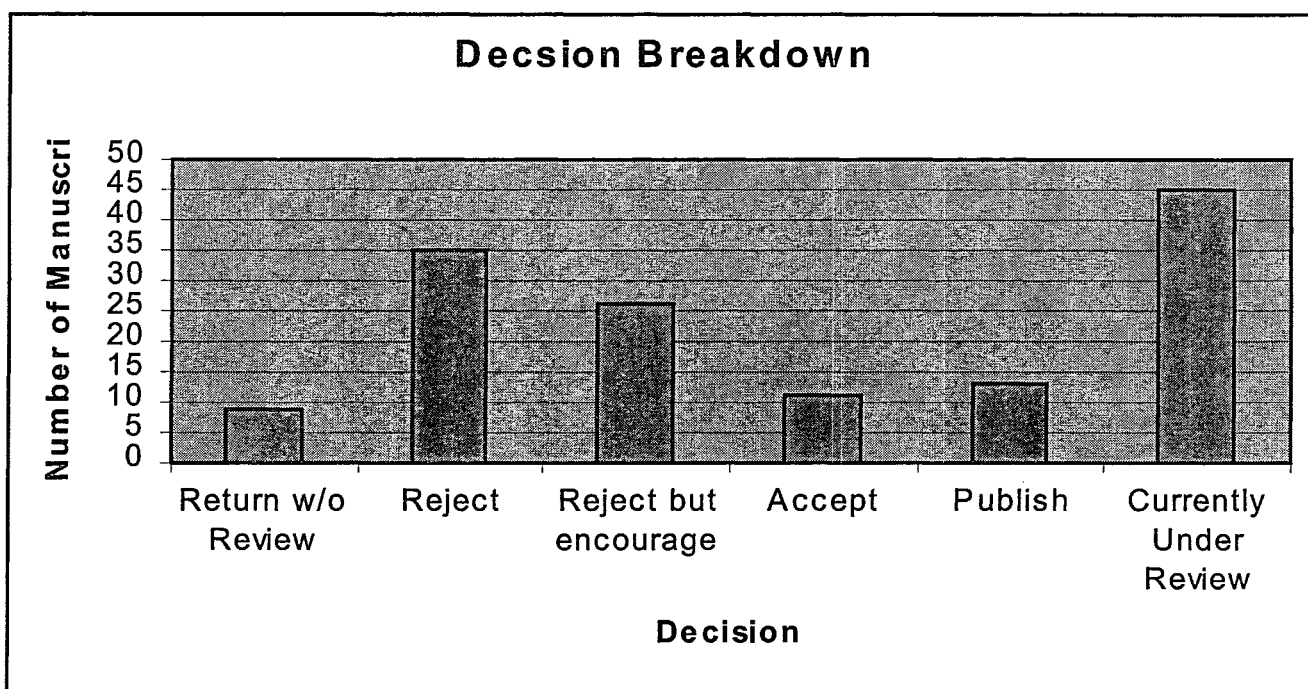


Figure 6. Decision Analysis

139: Total number of manuscripts received through 12/31/01

94: Total number of manuscripts that have completed the review process

2: The number of “reject but encourage” manuscripts that were resubmitted by 12/31/01¹

¹ This number is represented in the “Under Review” category despite its previous decision of “RBE”

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

Finding Reviewers and Length of Review Time:

Editorial Board Members

65%: Rate of acceptance for all Editorial Board Members (See *Figure 7*)

Finding Editorial Board Members that are available to review manuscripts continues to be one of the greatest challenges in expediting the review process. Data was collected based on the time (in days) the Editor received the manuscript until an EB agreed to review it. *Table I* illustrates the average amount of time (in days) that it takes for an editor to find a willing EB member.

Time to Find EB	
n=116	
Mean	41.98261
Mode	10
Median	28
Minimum	0
Maximum	219

Table 1. Amount of time it takes to find an EB to agree to review a manuscript

Although the editors received 116 “willing to accept” replies, it may have taken asking two or three EBs to do so. In the event an EB is unable to review a manuscript an alternate (or second alternate) EB is asked.²

Figures 8 and 9 illustrate the responses from the Editorial Board Members, Alternate Board Members, and 2nd Alternate Board Members:

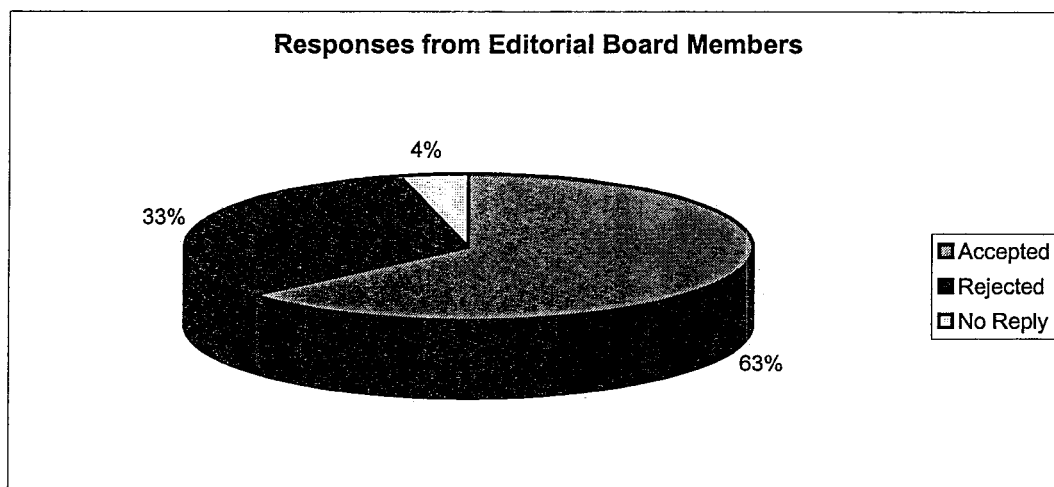


Figure 7. EB Responses³

² EBs are entered as Alternate EB and 2nd Alternate EB for record-keeping purposes only. There is no hierarchy of Editorial Board Members.

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

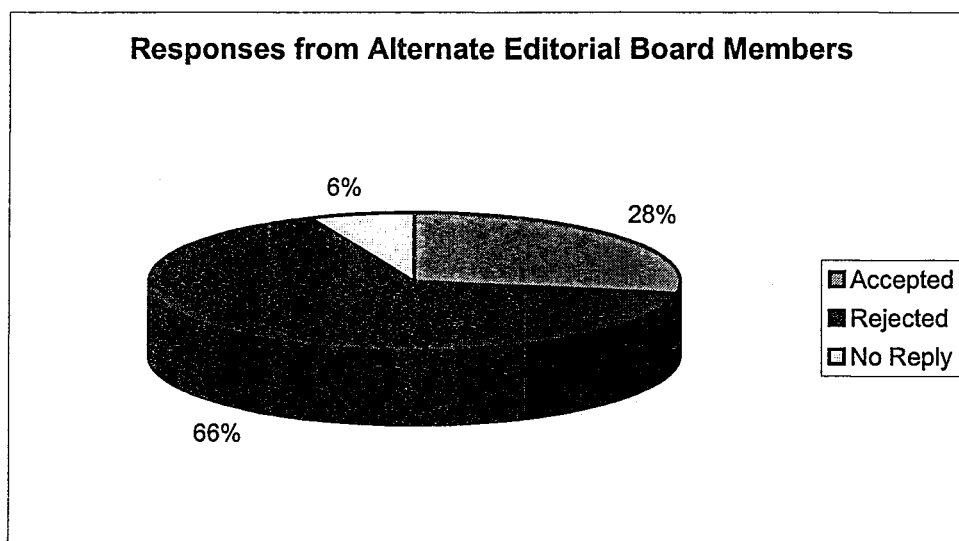


Figure 8. Alternate EB Responses

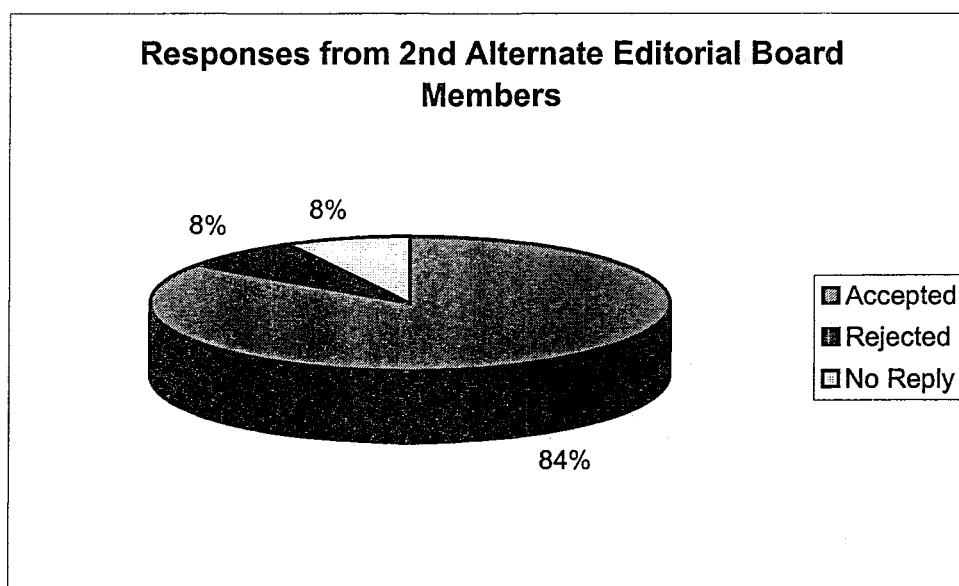


Figure 9. Responses from 2nd Alternate Board Members

186: Total Number of times the Editors had to ask an EB to review

122: Total number of times EBs agreed to accept manuscript

55: Total number of times EBs were unable to accept manuscript (Reject)

9: Total number of times JRST received "No Reply"⁴

³ The high number of "Reject" responses may be due to the transition of new and expiring EB terms this year.

⁴ Requests to review are done through electronic mail. Due to changing contact information, some EBs may have not ever received Editors' requests.

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

Reviewers

Of the 226 times reviewers were asked to read a manuscript, it took on average 4.23 days for a reply. In addition to reviewers responding with an “accept” or “reject” within days, they spend (on average) less time with each manuscript when compared to the EBs. See *Tables III* and *IV*.

<u>Reviewers' Response Time</u>	
Mean	4.23
Mode	0
Median	1
Minimum	0
Maximum	48
n	226

Table II. Time in days it takes for a reviewer to reply

<u>Time with EB</u>	
Mean	42.10417
Mode	34
Median	41
Minimum	0
Maximum	123

Table II. Time manuscript spends with EB

<u>Time with Reviewer</u>	
Mean	33.72571
Mode	41
Median	38
Minimum	7
Maximum	130
n	175

Table III. Time manuscript spends with Reviewers

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

Associate Editor

The following table shows the average amount of time (in days) that a manuscript spends with the Associate Editor.

<u>Time with AE</u>	
Mean	30.76923
Mode	21
Median	22
Minimum	2
Maximum	63

Table I. Average time with AE

Journal of Research in Science Teaching Annual Report
January 1, 2001-December 31, 2001

10

Dale R. Baker and Michael D. Piburn, Editors
Vivian Lemanowski, Database Manager

**RESEARCH COORDINATOR'S REPORT
FRANK E. CRAWLEY**

NARST Annual Meeting: April 7-10, 2002

Committee Membership

1. Jan VanDriel	03	driel@ICLON.LeidenUniv.nl
2. Joan Whitworth	03	j.whitworth@morehead-st.edu
3. Heidi Carlone	04	heidi_carlone@uncg.edu
4. Deborah Tippins	04	dtippins@coe.uga.edu
5. Maureen McMahon	05	mmcmahon@csulb.edu
6. Nancy Romance	05	romance@fau.edu
7. Patricia Simmons	05	psimmons@umsl.edu
(NSTA Dir. of Res.)		
Ex-officio: Cheryl Mason	03	clmason@nsf.gov

Committee Charge

The Research Committee advises the Association on research matters.

Scope of Work

I have worked with Maureen McMahon (NSTA Research Coordinator) on preparing the first issue of *PEERs Matter*, a peer-reviewed joint publication of the NARST and NSTA. We will serve as co-editors and members of the NSTA and NARST Research Committees will review abstracts and manuscripts submitted for publication consideration.

I contacted newly appointed members of the NARST Research Committee (Maureen McMahon, California State University, Long Beach, and Nancy Romance, Florida Atlantic University) to welcome them and to inform them of the Committee's scheduled meeting date, time, and location at the Annual Meeting in New Orleans.

I prepared and sent out to NARST members, via the Listserv, a call for proposals to present a NARST-endorsed session at the NSTA National Convention in Philadelphia, March 27-30, 2003.

NSTA-NARST PUBLICATION

Maureen McMahon and I agreed to serve as Co-Editors of *PEERs Matter*. We asked members of our respective research committee to serve as reviewers of abstracts submitted for the first issue, on the topic of Assessment. Present and outgoing members of the Research Committee expressed great interest in participating in this project. Maureen and I developed a call for proposals and posted it on the NARST Listserv in October. It also appeared in the October/November 2001 issue of *NSTA Reports!*.

A total of 30, 250-word abstracts were received by the December 15, 2001 deadline. We created a rubric to assist research committee members with their review. Maureen McMahon secured the assistance of a technical person at California State University, Long Beach, to develop a website for posting abstracts, listing reviewer assignments, and for accessing the reviewer's rubric and submitting review results by the March 8, 2002, deadline. The first issue of *PEERs Matter* will be published in print and electronic formats. Maureen and I will meet at the NSTA National Convention in San Diego, March 27-30, 2002, to discuss the review results and how we will proceed with the manuscript solicitation and review process.

NARST Sessions at NSTA 2003

I published on the Listserv a call for proposals from NARST members to be presented at the 2003 NSTA Annual Meeting in Philadelphia, March 27-30. Included in the call for proposals were three attachments: an application form, the NSTA Minimum Safety Guidelines for Presenters and Workshop Leaders, and the NSTA Safety Form. I will leave copies of these documents at the NARST Annual Meeting Registration Desk, and I include them with this report.

Research Committee Members

I want this report to acknowledge my sincere appreciation for the outstanding contributions of all members of the Research Committee. Each member brings considerable insights, knowledge, and expertise to the work of this committee. Outgoing, present, and incoming members include:

- 1. John Wallace 02
- 2. Steven Rogg 02
- 3. Jan VanDriel 03
- 4. Joan Whitworth 03
- 5. Heidi Carlone 04
- 6. Deborah Tippins 04
- 7. Maureen McMahon 05
- 8. Nancy Romance 05

NSTA National Convention

March 27-30, 2003

Philadelphia, Pennsylvania

Do you have science education materials such as workshops, curricular activities or software that you would like to share with science teachers?

Do you have research results that could benefit from discussions or feedback from science teachers?

If "Yes" consider presenting a NARST-endorsed session at NSTA in Philadelphia.

What is the Process for Submitting a Session Proposal?

For your proposal to be considered for presentation, you must send the following information to crawleyf@mail.ecu.edu no later than April 26, 2002.

Session Title

Session Presenters (include all of the following information for each presenter)

Name: _____

Department: _____

Institution: _____

Work Address: _____

City, State, Zip: _____

Phone: _____ (Work) _____ (Home)

Fax: _____ E-Mail _____@_____

Brief Description (limit 25 words)

Type of Session [i.e. Hands-On Workshop (60 min) or Presentation (30 or 60 min)]

Summary of Proposal (150-200 words)

NSTA Safety Waiver (completed and signed by ALL presenters, see attachment)

Completion of this phrase: "My session will address the [(choose only one) Science Teaching Standards, Professional Development Standards, Assessment Standards, Science Content Standards, Science Education Program Standards or Science Education System Standards] by".

IMPORTANT: DO NOT mail the completed proposal to the NSTA. Instead, save the completed proposal and Safety Waiver in Rich Text Format and send it by electronic mail to crawleyf@mail.ecu.edu

If you have questions, contact Frank Crawley (crawleyf@mail.ecu.edu).

DEADLINE FOR RECEIPT OF PROPOSALS IS APRIL 19, 2002.

- o PLEASE DO NOT MAIL OR FAX YOUR PROPOSAL.

Proposals will be reviewed by members of the NARST Research Committee, and outstanding proposals will be submitted as a group to the NSTA on behalf of the NARST. As an NSTA affiliate, the NARST is provided with 10 hours of programming at the national convention. You will receive notification about the results of the proposal review by May 17.

Thank you!

Frank E. Crawley
NARST Research Coordinator

NSTA MINIMUM SAFETY GUIDELINES FOR PRESENTERS AND WORKSHOP LEADERS

PREAMBLE

The National Science Teachers Association, an organization of science education professionals dedicated to the stimulation, improvement, and coordination of science teaching and learning, supports scientific safety at all levels. Presenters, workshop leaders, contestants, and authors at NSTA-sponsored activities serve as role models for other science educators. As role models, these individuals must develop, encourage, and display good safety habits at all times. A good safety role model promotes positive safety in actions, words, behavior, and deeds. Science safety is an integral part of science education and serves as a preparation for life. Accordingly, NSTA encourages teachers to offer meaningful and safe science experiences both inside and outside the classroom. NSTA requires that all presentations, workshops, and related science-education activities, be conducted in accordance with recognized safety procedures and good common sense. The intent of the safety guidelines that follow is to promote safe science practices at all NSTA-sponsored activities.

ALL PRESENTERS AND WORKSHOP LEADERS MUST FOLLOW THE NSTA MINIMUM SAFETY GUIDELINES

THE FOLLOWING MAY NOT BE PART OF ANY PRESENTATION OR WORKSHOP AT AN NSTA CONFERENCE UNDER ANY CIRCUMSTANCES:

1. Parts of the body are not to be placed in danger, such as placing dry ice in the mouth or dipping hands or fingers into liquid nitrogen or molten lead, or exposing the hands and face to microorganisms. Demonstrations such as the following shall not be conducted: walking on broken glass or hot coals of fire with bare feet, passing an electric current through the body, and lying on a bed of nails and having a concrete block broken over the chest.
2. Live vertebrate animals may not be used in demonstrations or for experimental purposes. Such animals may be used only for observational purposes provided the animals have been lawfully acquired, are housed in proper containers, and are handled in a humane way following the NSTA's "Guidelines for Responsible Use of Animals in the Classroom" (NSTA Position Statement). Any certification papers or vaccination documents shall be made available upon request.
3. Animals are to be used for educational purposes and not for the exploitation of the animal for advertisement, commercial purposes, or sensationalism. This includes use of animals in the Exhibit Hall.
4. Live ammunition, firearms, or acutely dangerous explosives, such as benzoyl peroxide, diethyl ether, perchloric acid, picric acid, and sodium azide, may not be used. Commercially available fireworks and blasting caps shall never be employed.
5. Plants with poisonous oils (e.g., poison ivy), saps (e.g., oleander) or other plants known to be generally toxic to humans are not to be used. (Resource: Human Poisoning from Native and Cultivated Plants, by James W. Hardin and Jay M. Arena. The publisher is Duke University Press, Durham, NC 27708.)
6. Experiments or demonstrations with human blood/body fluids may not be conducted.
7. Radioactive powders, liquids, or solutions are not to be used except in a laboratory facility designated for the type of radioactive material. Arrange for proper shielding and protection for demonstrations which involve radiation. Only low-level, radioactive sources shall be employed.

GUIDELINES FOR PREPARING YOUR PRESENTATION:

1. Practice all demonstrations or workshop procedures BEFORE presenting them to an audience or having participants try them.
2. Research and understand the properties, chemical reactions, and dangers involved in all demonstrations. Plan to use correct handling and disposal procedures for all chemicals and biohazards used. Arrange to have a fire extinguisher available whenever the slightest possibility of fire exists. Be aware of emergency and fire escape routes for your site.
3. Prepare a handout that gives participants detailed instructions about the procedures, safety precautions, hazards, and disposal methods for each demonstration and workshop. Material Safety Data Sheets (MSDS) for chemicals and biohazards shall be made available upon request.
4. Prepare photographs, slides, videotapes, and so on that show safe science practices. When preparing these materials, safety goggles and equipment shall not be removed for aesthetic considerations.
5. In planning demonstrations and/or workshops, keep quantities of hazardous materials to a minimum. Use only those quantities that can be adequately handled by the available ventilation system. Do not carry out demonstrations that will result in the release of harmful quantities of noxious gases into the local air supply in the demonstration or other rooms. The following gases shall not be produced without using a fume hood: nitrogen dioxide, sulfur dioxide, and hydrogen sulfide. Volatile, toxic substances such as benzene, carbon tetrachloride, and formaldehyde shall not be used unless a fume hood is available.

6. Make sure your glassware and equipment are not broken or damaged. The use of chipped or cracked glassware shall be avoided. If glassware is to be heated, Pyrex TM or its equivalent shall be used.
7. Thoroughly check motor-driven discs that will be revolved at moderate or high speeds. Make sure the disc is sturdy, that it contains no parts that may come free, and that the safety nut is securely fastened.
8. Arrange to use a safety shield and/or eye protection for audience members and interpreters for any demonstration(s) in which projectiles are launched or when there is the slightest possibility of an unsafe explosion. Do not allow direct viewing of the sun, infrared, or ultraviolet sources.
9. Make sure any lasers to be used in demonstrations are helium-neon lasers with a maximum output power rating not exceeding 1.0 milliwatt. At all times, avoid direct propagation of the laser beam from the laser into the eye of an observer or from a reflected surface into the eye.
10. Secure pressurized gas cylinders by strapping or chaining them in place or by using proper supports, i.e., lecture bottles.
11. Obtain, in advance, the necessary state and/or local permits needed, for the firing of model rockets. Activities involving the firing of rockets must be well planned and follow Federal Aviation Agency (FAA) regulations, state and local rules and regulations, and the National Association of Rocketry's (NAR) Solid Propellant Model Rocketry Safety Code.
12. Arrange for appropriate waste containers and for the disposal of materials hazardous to the environment.
13. Plan to dress safely for your presentation or workshop.

If you have any questions concerning safety and your presentation, contact the NSTA Associate Executive Director of Conventions (703-243-7100) or e-mail conventions@nsta.org.

DURING THE PRESENTATION:

1. Comply with all local fire and safety rules and regulations. Follow the "NSTA Minimum Safety Guidelines."
2. Wear appropriate eye protection, an apron, ear protection, and similar protective gear for all chemical demonstrations or when appropriate for other demonstrations. Provide eye protection, aprons, and safety equipment for participants who will be handling chemicals, hazardous substances, or working with flames.
3. Do not select "volunteers" from the audience. Assistants used in demonstrations shall be recruited and given the proper instructions beforehand.
4. Warn participants or audience to cover their ears whenever a loud explosion is anticipated.
5. Use a safety shield for all demonstrations that involve the launching of projectiles, or whenever there is the slightest possibility that a container, its fragments, or its contents could be propelled with sufficient force to cause injury. Shield moving belts attached to motors. Use caution when motor-driven discs are revolved at moderate or high speeds. Shield or move participants to a safe distance from the plane of the rotating disc.
6. Follow proper procedures for working with pressurized gases and when heating all forms of matter.
7. Use appropriate gloves and shields when working with hazardous chemicals and biohazards, cryogenic materials, hot materials, radioactive substances, vacuums, electromagnetic radiation, and when presenting animals for observation.
8. Do not taste or encourage participants to taste any non food substance. A food substance subjected to possible contamination or unsafe conditions shall never be tasted.
9. Alert the audience clearly at the beginning of the program of the presence or production of allergenic materials such as strobe lights, microwaves, "theater" smoke, lycopodium powder, or live animals.
10. Maintain clear egress during the demonstration or workshop.
11. Emphasize and demonstrate appropriate safety precautions throughout the presentation or workshop.
12. Distribute a handout that will give participants detailed instructions about the procedure, safety precautions, hazards, and disposal for each demonstration and workshop.

—Adopted by the NSTA Board of Directors, August 1994, and revised July 2000.

SAFETY

Identify and potential safety hazards associated with your presentation:

___ N/A

What precautions will be taken during the presentation to deal with these hazards and to inform the audience?

___ N/A

What safety equipment will be required? (Please specify what equipment you will be providing and/or what equipment you need NSTA to provide).

___ N/A

I plan to use:

___ open flame ___ animals ___ microorganisms ___ biohazards
___ projectiles ___ radioactive substances ___ N/A

Please include (on a separate sheet) a list of all reagents to be used in your presentation.

I have received a copy of the "Minimum Safety guidelines for NSTA Presenters and Workshop Leaders" (attached) and agree to comply with the guidelines during my presentation. **Please sign below even if safety considerations are not applicable to your session.**

Presenter #1 Signature: _____ Date: _____

Presenter #2 Signature: _____ Date: _____

Presenter #3 Signature: _____ Date: _____

Presenter #4 Signature: _____ Date: _____

Presenter #5 Signature: _____ Date: _____

Presenter #6 Signature: _____ Date: _____

PEERs Matter – Assessment – First Issue

Call for Submissions

NSTA and NARST are teaming to create an ongoing publication series called PEERs Matter. This new series will be a print and online resource for teachers of science, teacher-researchers, and science education researchers to share methods, stories, and findings about the hottest issues in today's preK-16 science classrooms. PEERs Matter will link “best-practice” ideas to sound science education research.

Together we can build a strong science assessment knowledge base from which to construct sound classroom practices. Planning appropriate evaluation is challenging—and even more difficult in the current climate of high-stakes testing. Consider:

§ Has your analysis of your students' work generated new strategies for your teaching?

§ What are the toughest challenges in student assessment, and what are your best solutions?

§ Has your research led to insights for identifying evidence of student understanding?

§ What practical implications do research findings have for classroom and district science assessment?

Share your classroom testing stories, standards-based assessment techniques, teaching-testing dilemmas, portfolio struggles and triumphs, and knowledge of the research on assessment.

[Click here](#) to send us a 250-word abstract of your assessment-related research or classroom assessment tale; plus a 100-word paragraph indicating your science education teaching or research experience.

Submit your ideas, stories, methods, and research findings

Please enter your 250-word abstract of your assessment-related research or classroom assessment tale (story) in the box below.

Please enter your 100-word paragraph indicating your science education teaching or research experience in the box below.

Please give us your name and email so we can contact you regarding your submission.

Name:

Email:

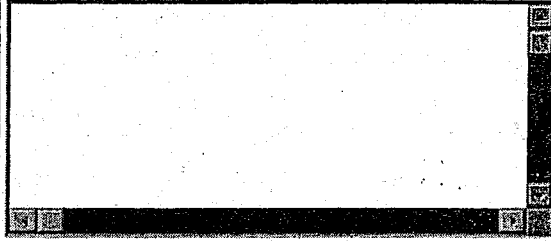
Submissions Review Process:

The theme of the inaugural issue of PEERs Matter is Assessment. Manuscripts accepted for publication in this premier issue may include but are not limited to classroom testing stories, standards-based assessment techniques, teaching-testing dilemmas, portfolio struggles and triumphs, and knowledge of research on assessment practices in science education. Regardless of focus, the manuscript should possess widespread appeal to all readers of PEERs Matter, including practicing science teachers; science teacher educators, and researchers in science education.

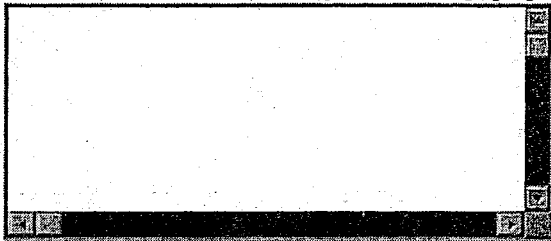
Read the following abstract and reflect upon the content of the abstract as best you can using the following ten categories for reference. Then, rate the abstract on each category on a 1 (low) to 5(high) rating scale.

Submission #PA _____	
Abstract:	
Review of the abstract content: (1-low to 5-high)	
(1) relates to assessment/evaluation in science teaching.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(2) grounded in science teacher(s) practice.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(3) important for science teachers' assessment practices.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(4) contributes to science teachers' knowledge of assessment practices.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(5) connects assessment research to practice or practice to research.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(6) offers insights to assessment problems/dilemmas.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(7) reveals new ways to get evidence of students' understanding of science.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(8) has implications that potentially extend beyond the context of study.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(9) makes an invaluable contribution to assessment research/practice.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>
(10) is potentially interesting to readers of PEERs Matter.	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/>

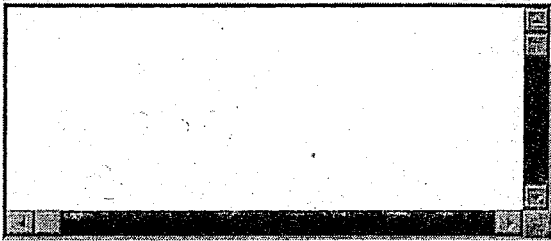
1. Please note the assessment angle that you think would be most appropriate for the author to highlight, keeping in mind that the finished article should be user friendly and practical in nature.



2. Please make your recommendations for the placement of the future article (based on this abstract) in the first issue of PEERs Matter. Based on only what you can glean from the short abstract, do you feel the final article should be one of 7-10 feature articles or one of 10 shorter support articles. If you feel this abstract does not merit consideration for moving to manuscript preparation please indicate your reasoning.



3. Please use this space to offer any other thoughts, recommendations, considerations you would like us to pass on to the author(s) regarding manuscript preparation.



Please make a recommendation for this submission. We need to decide whether or not to accept the author's submission for full manuscript preparation.

- Definitely Accept
- Probably Accept
- Reject

Note: All authors will be given guidance based on your comments above as to how to proceed with manuscript preparation.

Your name:

Your email:

Actual Submitted Abstracts:

PA11. The project described is a Professional Development Program (PDP), where inservice and preservice teachers worked together to develop science and mathematics performance assessment tasks. Incorporating Clarke's (1994) principles for professional development, our PDP model included these elements: 1) focusing on teachers' impact on student learning; 2) pairing inservice and preservice teachers; 3) involving teachers over an extended period of time with opportunities for reflection; 4) recruiting inservice teachers as collegial teams; and 5) contextualizing the PDP in meaningful task design and implementation in the teachers' classrooms. During the one semester, the preservice and inservice teachers, wrote the performance assessment tasks and scoring rubrics, arranging their own group meetings and communicating over email. The principal investigators provided feedback throughout the design process. A second workshop was held mid-way through the semester for participants to share their early work with other groups, discuss accomplishments and difficulties, and continue to work on the performance task. Following this workshop, a complete draft of the task was submitted to the principal investigators for feedback and revision recommendations. After revision the performance assessment task was administered and field-tested with the inservice teachers' classes. A final workshop was held to discuss the administration of the performance assessment tasks. Each group presented their task and shared their experiences with the other workshop participants. Early data analysis shows that the development and administration of the performance assessment tasks required both the inservice and preservice teachers to approach instruction in a fashion that was more in line with reform efforts.

PA12. Using action Research to Vary the Instructional Method and students' Assessment in High School Chemistry. Recent reforms in science education in the USA as well as in Israel is an important first step in achieving scientific literacy for all students. the push for such reform necessitates the implementation of new and varied instructional strategies in the science classroom. This in turn necessitate the implementation of varied assessment methods of students' achievement and progress in science. In this study (a case study) a group of 9 chemistry teachers guided by a tutor from a curriculum development center and the school chemistry head of department, designed and implemented new pedagogical approach to the teaching and learning of high school chemistry. For each of the learning experiences an assessment tool was designed and used in order to assess the progress of the students continuously over a period of three years (grades 10-12). This project could be regarded as a school-based professional development using "action research" and "teacher as curriculum developers" strategies. The results of the action research conducted by the team of chemistry teachers clearly showed that students' attitude and perceptions revealed clear satisfaction regarding the way chemistry is taught in general, and the way they are assessed in particular. Moreover observations conducted on the teachers' team effort has clearly shown gradual development of collaboration in order to attain new pedagogical standards in high school chemistry.

PA13. The state of Louisiana is currently in the third year of implementing one of the most aggressive high stakes assessment programs in the nation, the LEAP21 exams. These tests are given in the 4th and 8th grades with the consequence of grade retention for students who fail to meet the basic proficiency level. Tenth graders take the Graduate Exit Exam (GEE21), with those students who do not meet the basic proficiency level by the end of 12th grade receiving a certificate of school attendance rather than a high school diploma. These exams (taken in English, mathematics, science and social studies) emphasize inquiry processes, analysis and interpretation of data and a variety of written and performance tasks. However, because most of the teachers I work with have never had these kinds of learning experiences themselves, it is nearly impossible for them to facilitate these experiences for their own students or to create classroom assessments that prepare students to succeed on the exams. Thus, I set out to develop a model of science teaching that would guide teachers through inquiry experiences and assessments as active participants in authentic problem-posing and problem-solving, while also preparing them to facilitate this kind of inquiry and assessment with their own students. This paper focuses on the assessment portion of the model, and especially my experiences using digital video as a medium for aiding students (and teachers) in the documentation of their learning. The paper also explores the following problem: How can one enact a model of authentic inquiry within and against a culture of high stakes assessment? That is, within a school culture that had become singularly focused on preparing students to succeed on high-stakes, standardized tests, how can teacher educators convince teachers of the value of an inquiry-based model as a way to effectively prepare their students to succeed on high-stakes assessments while also providing them with other academic benefits?

PA14. Science teachers employ a range of graphic organizers for a variety of purposes when structuring learning experiences for students (see Hamer et al., 1998). In this paper, we will describe our experiences with mind mapping, a graphic organizer that can be used to generate ideas, take notes, develop concepts and ideas, and improve memory (Buzan, 1983). This study was co-initiated by Robin, a 14-year science teacher, and Karen, a university researcher, based on their mutual interest in exploring a graphic organizer that seemed to have the potential to promote both concept organization and development as well as creativity. We conducted our research over a one-year period (2000-2001) with Robin's class, a group of 16 grade six students who were heterogeneous in terms of ability. We adopted an action research approach that allowed us to engage in ongoing cycles of action and reflection. Data collection methods and sources included classroom observation, semi-structured and informal interviews with students, document analysis of students' work, and e-mail discussions between Karen and Robin. In this paper, we argue that mind mapping may be appropriate for prior assessment of students' knowledge and understanding of concepts; for ascertaining how students are developing their understanding of scientific concepts and ideas (ongoing assessment); for diversifying approaches to student assessment; and for fostering collaborative group inquiry. We will encourage other teachers and researchers to conduct research into the efficacy of mind mapping as a teaching and learning tool in science classrooms.

PA15. What Do Our Students Really Know? Evaluation of Student Learning in Organic Chemistry Using the SOLO Taxonomy In this article we describe our experience in adapting the Structure of Observed Learning Outcomes (SOLO) taxonomy for use in an undergraduate organic chemistry two-semester course sequence. The SOLO taxonomy describes student learning in stages of increasing structural complexity: prestructural, unistructural, multistructural, relational and extended abstract. These hierarchical levels allow an instructor to rank student responses to open-ended questions as those that show no relevant processing of information (prestructural), only preliminary processing (unistructural) or those in which students address some aspect of the question but are unable to relate ideas (multistructural); the preferred levels of understanding are those demonstrated when students integrate several aspects of the question to produce coherent meaning (relational) or generalize to a higher level of abstraction (extended abstract). Faculty can ascribe these levels to students' conceptual knowledge based on the instructors' evaluation of students' responses. We found this method to be a powerful tool to analyze points of difficulty or confusion in student learning. It was also helpful in determining the impact of different pedagogical strategies on students' conceptual understanding.

PA18. For 15 years we have collaborated with science teachers to develop courses that engage students in realistic inquiries that involve the development, use, revision, and assessment of powerful causal models. These courses have served as the site of our research on student learning and reasoning in genetics, evolutionary biology, and astronomy. Assessing student understanding in inquiry-oriented courses is challenging—particularly in evolutionary biology. This is because to do so requires assessing their understanding of causal models, their ability to use models to generate and interpret data, revise models in response to anomalous data, and students' emerging ability to reflect on their own thinking. In our manuscript we will describe an assessment 'instrument' from our evolution course. Early in the course students write an explanation for the origin of the current distribution of Galapagos tortoises. Their explanations provide teachers with a sense of student 'prior knowledge' and are then returned to on the final course assessment where students: ÿ review their original response, ÿ critique it based on what they now know, ÿ provide an explanation for an analogous scenario, and ÿ reflect on what they have learned during the course. We will include a brief description of the evolution course, the assessment instrument described above, examples of student responses on it at both points in the course, and our interpretations of what the responses indicate about student understanding. We will conclude with comments on assessing students in courses where the focus is on engaging them in realistic inquiry.

PA19. Coming to See the Invisible: Assessing Understanding in an Inquiry-focused Science Classroom We have been involved for several years in a collaboration between University researchers and high school science teachers. The focus of our work has been the design of curricula that mirror important aspects of realistic scientific practice, in particular the ways in which causal models are invoked to account for patterns in data and the criteria brought to bear in judging the acceptability of explanations and/or knowledge claims. Given these goals, our team designed a nine-week Earth-Moon-Sun (EMS) astronomy unit for ninth-graders. Underlying this curriculum was a commitment to having students participate in data collection, model building, and public justification of explanations. Research in this context (using field notes, interviews, and students' written work) showed that, through participation in modeling and argumentation, students gained knowledge of EMS concepts and also improved their inquiry skills and their understanding of how knowledge is judged in science. The teachers, however, relied almost exclusively on written work (mostly multiple choice items that assessed content knowledge only) to assess their students' progress in the unit and, as such, were unable to "see" the strides they made with respect to inquiry. In our paper, we will describe a framework for thinking about the components of assessment and how we used this framework to create opportunities for teachers to reflect on their instruction in the EMS unit. We will focus mostly on the problem of making inquiry skills and epistemological understanding "visible" through authentic assessments and share examples of tasks and rubrics designed for this purpose.

PA20. Scientific inquiry is a multi-faceted endeavor that includes, among other things, conducting empirical studies and revising causal models and explanations in light of anomalous empirical data or conflicts among causal models. In a multi-year collaboration we have developed a high school genetics course that engages students in a range of realistic inquiries, including those that require them to revise explanations and causal models. While classrooms with such a focus provide daily opportunities for teachers to assess student understanding there is also often the need for more formal assessments (e.g. tests). In our manuscript we will describe assessments that occur during students' day-to-day problem solving as well as those that occur in tests that assess students' abilities to use and revise models and explanations. These assessments take advantage of the computer software GENETICS CONSTRUCTION KIT. We will include examples of test questions that use GCK to assess students': ÿ ability to use and assess models and explanations, ÿ ability to go beyond their current understanding of a model (e.g. multiple alleles) to propose (for example): How a three-allele, four-variation model might be extended to account more or fewer variations in a population. How a three-allele model might be used as a starting place to imagine a family of several different multiple-allele models that involve more than three alleles in a population. ÿ understanding of the commonalities in simple dominance, co-dominance, and multiple alleles models. We will conclude with a general discussion of assessment in courses where students engage in realistic inquiries.

PA22. Assessing and improving student motivation Imagine motivated eleventh-school students working together with their teacher's help engaging in a conceptual conflict lesson questioning their individual notions about a physical science concept. Picture a classroom full of motivated fourth-grade students engaging in a project-based science curriculum where students coached by their teacher identify environmental problems tied to their personal worlds. In each case students are motivated, strategic, informed, and socially interactive—engaged in collecting-data activities and reflecting without hefty amounts of teacher supervision and extrinsic reinforcement. Without question, such exemplary instances occur in some American schools. But, what does research of high quality say about how to assess students' motivation in the science classroom and the motivational-linked dispositions needed to encourage scientific literacy in students? And, what are some practical ways of getting and keeping students motivated once we assess and better understand why they are motivated? Research suggests that teachers look at the following student factors: Self-efficacy, willingness to tackle difficult tasks, tendency to avoid work, curiosity, enjoyment and importance in learning, parent and peers' acknowledgement in success, teacher grades, sense of competition, desire to understandings, compliance with teachers' wishes. An evaluative scheme for assessing each of these factors is described and is based in research, which suggests that some factors are more favorable to sustained science learning than others. Practical ways based in research also are provided for teachers interested in bolstering unmotivated or discourage students and, a separate list designed to keep motivated students motivated and sustained over long periods of time.

PA23. The proposed article will report the findings of a qualitative study conducted in an elementary school setting in the fall of 2001. The research questions focused on elementary children's perceptions about science learning. The study investigated: (1) how these second graders felt about learning science and what contributed to these feelings; (2) how these children felt about science assessments and why; and (3) what assessment strategies motivated these children to be interested in science. The research included ongoing collaboration with a team of second grade teachers in planning and delivering the content for a target science unit. A series of assessments to measure understanding of the science concepts was designed and administered to students following the instruction. Randomly selected students were then interviewed, in an effort to find out more about their thoughts and feelings regarding these experiences with science learning and assessment. Interview data was coded and analyzed for the purpose of meaningful interpretation. The findings reveal that these second graders felt very positive and enthusiastic about science. It appeared that active involvement and hands-on experiences engaged the children and that the continuous "surprises" which emanated from science investigations provided an element of mysterious intrigue that captured their imagination. These children demonstrated and discussed rich understanding of target content, but most of them relied on concrete descriptions of hands-on experiences to clarify and elaborate upon their applied knowledge. These second graders displayed a high degree of confidence in their science knowledge and consequently, expressed no anxiety about being assessed. They preferred having multiple options for showing their understanding on tests (such as drawing, writing, and verbal explanation) and the element of choice was appealing to them. The outcomes of this small qualitative study

may not be generalizable, but they do offer insight to those of us in the field of elementary science education. This research highlights children's feelings about science learning, why they feel that way, and how the process of assessment can become a positive aspect of their learning experiences.

PA24. This article explores the collaborative processes that five teacher colleagues from the same school district engaged in while trying to develop and improve formative assessment practices in their middle school science classrooms. The article first introduces the process of collaboration that was supported by the Classroom Assessment Project to Improve Teaching and Learning (CAPITAL), a research initiative funded by the National Science Foundation that seeks to understand classroom-based assessment in science through collaboration with teachers as they try new assessment strategies and meet regularly to examine and discuss their evolving innovations. Then the teachers describe an example of how assessment practices geared toward incorporating peer- and self-review, criterion-referenced rubrics, and self-revision developed over the course of two school years across their individual classrooms. This chronicle will highlight how the interactions among the group (sharing their innovations and results, questioning one another, and offering suggestions) helped shape the direction that they individually took with regard to developing new assessment practices. The article concludes by discussing four main understandings for the teachers that have evolved in this ongoing classroom research and peer collaboration: the value added that peer collaboration offers to improving classroom practices; how formative assessment impacts their and their students' views of fairness in assessment; how a review and revision process done by the students leads to greater learning opportunities in the classroom; and how strategies that may seem overwhelming at first can eventually make the assessment responsibilities of the teachers easier and more productive.

PA25. How does professional development link to student performance and teachers' assessment of that performance? How does their enactment of assessment methods grow and change over time? In turn, how do teachers' reports of student assessments impact the creation of curriculum and design of professional development opportunities? To pursue these questions, we follow Jane, an urban middle school science teacher, as she learns about and enacts a curriculum unit on Air Quality. At four points in this unit, Jane has her students create drawings to demonstrate their evolving understanding of the molecular composition of the air around us. This embedded assessment method is discussed among a group of teachers as part of a continuing professional development effort within an urban district's systemic reform program. Samples of student work are used in the professional development to guide discussion. The teachers' input leads to adaptation of the assessment; students create accompanying paragraphs to better explain the content knowledge evidenced in the drawings and the thinking behind their creation. Jane's work takes place in the context of efforts undertaken by the Center for Learning Technologies in Urban Schools, a partnership between the University of Michigan, Northwestern University, and Detroit and Chicago Public Schools. In the paper, we discuss our work together, the curriculum materials we have collaboratively developed, and the means by which teachers instantiate the activities and assess student learning. We

close with implications for student assessment, teacher and curriculum-developer interaction, and professional development of science teachers.

PA26. This article examines the varied ways that assessment innovations unfold in classrooms through the cases of three middle school science teachers who are engaged in deliberate action toward creating an assessment ethos in their classrooms that is more supportive of student learning. The paper stems from research activities associated with the Classroom Assessment Project to Improve Teaching and Learning (CAPITAL), a research initiative funded by the National Science Foundation. Participating teachers collaborate with researchers as they try new assessment strategies in their classroom, document practices, meet regularly to examine and discuss their evolving innovations with other teachers and the researchers, and work jointly with researchers on case writing. Each of the cases offers an individualized and personal perspective on changing classroom assessment practices. Collectively, the cases address issues that teachers face as they work to enact systems of assessment that are fair and educative for all students, make efforts to incorporate peer assessment into regular classroom practice, attempt to manage multiple forms of information about student understanding to further student learning, and consider the form and nature of feedback provided to students. The cases help illuminate the evolving assessment innovations, the changing nature of the classroom, and what teachers have learned about their teaching and beliefs while engaged in a collaborative research effort focused on improving classroom assessment. The article concludes with a discussion about the personal nature of changing classroom practices and the overarching effects that a focus on assessment to support student learning can foster in classrooms.

PA27. USING RUBRICS SUCCESSFULLY: HOW TO FOSTER MEANINGFUL LEARNING AND SELF-ASSESSMENT Using assessment rubrics in the classroom has a powerful effect on teaching and learning. In this paper, we describe the assessment system developed by the Science Education for Public Understanding Program (SEPUP), a curricular and professional development group, at the Lawrence Hall of Science, UC Berkeley, and the practical implications of using rubrics in classrooms. Examples from classrooms are used to illustrate the following points and help teachers incorporate the approaches in their own classrooms. Students and teachers both develop a clear sense of the expectations for success on a project. Teachers become clearer about their teaching objectives and students know exactly what performance levels are expected. Rubrics help students focus on learning rather than grades. Whereas grades are the result of a combination of assessments, rubrics establish standards for completeness on a piece of work by spelling out what is expected. Through classroom activities, students learn what is considered "complete and correct", and what exceeds this level. Students also learn to clearly see what is missing in their work. As students become more proficient in a course, one would expect their rubric scores to improve. Research applications have been designed to demonstrate student progress during an entire course. We will also discuss evidence of students directly monitoring their own performance by comparing their work to the rubrics. It must be noted that the successful application and use of rubrics requires

much preparation for both students and teachers. We suggest strategies and practical examples of preparing students to use rubrics.

PA28. Title: Questions of Validity for Science Assessments Abstract: The developments in validity theory have been very prominent in recent measurement literature, but Samuel Messick, Pamela Moss and Lorie Shepard have not been cited extensively in the science education literature. It is my intent in this paper to make connections between current validity theory to help teachers enhance the validity of classroom test use. The paper will begin with an overview of the issues in validity. A performance assessment task will be described and used to focus a series of validity questions. The intent will be to enable teachers to examine how they are using assessment tasks, what can be claimed of student performance, and how to examine the consequences of using the assessment. Questions will include: 1. What are my reasons for using this task? 2. How does it fit into my curriculum? 3. What abilities can I claim (and my students think) this task is assessing? 4. What do I need to know (about the tasks, about my students, about...) in order to use this task? 5. How will I introduce the task to the students? 6. What theories will I use to identify the features of "good" performance for this task? 7. Are there any conflicting theories that might lead to different claims about student performance? 8. Is it necessary to observe the students perform in order to be aware of how well they perform the task? Or is there a product? 9. What are the consequences (for the course, for the students, for the teacher, for) of using this task?

PA29. Aligning Standards-Based Assessment and Curriculum Materials for Teaching Inquiry Science The recent national call for standards-based assessment to improve student learning creates a challenge for teachers to align their evaluation of students with desired learning goals. In our work, we use a process of backward design (Wiggins & McTighe, 1999) to create science assessments for use in urban middle-school classrooms as a component of inquiry-based and technology rich instruction. We propose a design model for developing standards-based assessments in science education that align with recommendations by the American Association for the Advancement of Science and the National Research Council. This research offers a valuable way to approach the process of assessment design that is consistent with national science education standards and sensitive to the needs of teachers who work in the rough-and-tumble of everyday classrooms. In our paper, we present "generic" rubrics for assessing multiple ways of knowing in science derived from the recently revised Bloom's Taxonomy (Anderson et al., 2001). Our rubrics focus on explanation, modeling, design, analysis of data, and metacognition and can be used across science curricula. Teachers and researchers can adapt the generic rubrics to a range of science content, thereby providing the basis for assessing student growth across units within courses and even across courses and years. We will demonstrate these ideas through rubrics that we designed for middle-school chemistry that address AAAS Benchmarks regarding the particulate nature and conservation of matter. Evidence will be given that illustrates the initial success of the model as well as lessons learned.

PA30. This paper will provide an overview of assessment in its broadest terms and an introduction to the various alternative assessments. The article will be filled with examples and steps for designing effective assessment instruments of each type. Below is a tentative outline. Alignment of assessment and instruction (content and style) Uses of Assessment Formative Summative Assessment Alternatives — for each 'type' — description of assessment type, suggestions/tips for writing/designing good items, pros/cons of the assessment type (i.e. when appropriate) Classic assessments (MC T/F, Matching, Fill in the blank) Modifications to traditional assessment methods Performance tasks — projects, essay, on demand hands-on tasks Observation instruments Portfolios Journals Peer assessment [include box for each assessment strategy that answers the following questions — what is the strategy (definition/description), when is (best) it used, how is it used, tips for writing — a thumbnail reference for participants in addition to a more formal description] [include chart/check list that shows which assessments can be used for various goals] Grading/Scoring issues — rubrics, grading tips, etc. Connecting assessment to student learning outcomes and modes of instruction Template for designing assessments (go through an example as each step is described to serve as a model) Goal of assessment (formative/summative) Teaching objectives/goals of lesson (content & other) Accounting for methods of instruction (how taught, time allocation for topics, etc.) Deciding mode of assessment Reviewing the 'test' Point allocation vs. instructional time allocation Testing what was taught/learned vs. what's easiest to test? Are all learning objectives/goals assessed?

PA31. Developing Inquiry Skills in 4th Graders

The university-based science educator collaborated on issues of science education and educational research and assessment. The fourth grade science teacher taught his students a manageable set of four cognitive skills that had broad use for student engagement in complex activities requiring higher level thinking in general and science inquiry in particular. His target contexts for teaching these skills were science, math, and reading comprehension. An in-depth review of the literature in collaboration with his university colleague identified four skills: setting the purpose, relating prior knowledge, looking for patterns, and reflecting on the value of these skills (metacognitive awareness). A program of formative assessments provided the teacher with timely and relevant feedback to students about the objectives of instruction and their project to achieving those objectives. The two colleagues designed a program for monitoring student achievement, evaluating the target strategies and their validity, establishing criteria for mastery, assessing naïve or initial skill levels, and reflecting on instruction. The primary assessment instrument was a survey students filled out periodically throughout each week. The survey was strategy for teaching students how to reflect on the use of these skills and reflect on their value for learning. A second formative assessment strategy was to have students keep a daily "Thinking Log." On a cue from the teacher, students periodically recorded their thoughts of that moment. They assessed whether or not those thoughts pertained to accomplishing the purpose of the task. These assessments provided a deeper feedback on cognitive engagement in inquiry to the teacher while emphasizing the development of important thinking skills to the elementary students.

PA32. Science Standards Influence Classroom Assessment Practices As part of a larger study, the influence of national science standards on middle school science teachers' classroom assessment practices was examined. Three sources provided information on the extent to which the science standards influenced middle school teachers' classroom assessment practices: questionnaire responses, teacher interviews, and document analyses of teacher-made tests. Data suggest that the science content standards are influencing the content and the format of teacher-made tests. Teachers' reported using the standards during assessment construction or selection in a wide variety of ways. The most direct use of the standards reported was to select content, format and cognitive level for test items. Questionnaire data indicated that the three factors having the most influence on teachers' selection or construction a particular type of assessment were (a) how students learn, (b) alignment with science standards, and (c) purpose for assessment. Tests were analyzed according to a modified version of an assessment analysis plan offered by Project 2061. This was a four-step process that included a preliminary phase, determining content alignment, examining the test format, and a summary. A key finding discovered during the preliminary phase is that there is a disconnect between the quality of teaching and the quality of assessment. Teachers who teach the material recommended by science reform documents and use recommended instructional strategies were observed to stop teaching and engage students in a "test rehearsal" geared towards rote memorization of factual information.

PA33. Assessment should not be limited to the classroom. Instead, it should be used as a creative tool that is integrated into field trips. In science education we are aware of the power and importance of a well-timed and properly designed field trip. Too often, field trips are ill planned and poorly executed, reduced simply to an escape from the classroom with little structure and even less assessment. A proper field trip should include formative assessment that can be employed during the field trip and should not be limited to post field trip summative assessment. Techniques that can be successfully employed include on site teamwork to organize information for a future presentation, small group scavenger hunts, or reflective journal prompts that correspond to activities at the field trip site. The use of assessment during a field trip is vital because it demonstrates to the students that the excursion outside of the classroom is merely an extension of the classroom and not a holiday from it. In addition to this added validity, field trip assessment provides the teacher with a valuable and immediate evaluation of the students' understanding of the resources. Furthermore, this type of assessment informs the teacher about how the field trip helped to achieve the applicable science standards. Doran, R., Chan, F., & Tamir, P. (1998). *Science Educator's Guide to Assessment*. Arlington, VA: National Science Teachers Association. National Research Council. (1996). *National science education standards*. Washington: National Academy of Sciences. Vitale, M. R., & Romance, N. R. (2000). *Portfolios in science assessment: A knowledge-based model for classroom practice*. In J. J. Mintzes & J. H. Wandersee & J. D. Novak (Eds.), *Assessing Science Understanding: A Human Constructivist View* (pp. 168-197). New York: Academic Press.

PA34. A Knowledge-Based Framework for the Classroom Assessment of Student Science Understanding

The purpose of this proposed article is to integrate research-based developments in cognitive science with established principles of educational assessment in the form of a framework which science teachers could use to improve their classroom assessment of student understanding of science concepts. In doing so, the assessment framework presented is based upon the idea that understanding of science concepts is best considered a form of expertise. In this context, expertise has to do with the different ways in which knowledgeable experts who understand a science concept (or concepts) are able to apply their understanding and the set of situations (or the domain) to which such concept applications are relevant. In general, the research literature in cognitive science considers expertise to be a knowledge-based capacity which readily allows experts to analyze and solve different forms of problems by relating them to their conceptual understanding of the problem domain in a comprehensive and parsimonious fashion that novices cannot. Thus, in the present article, assessment of science understanding is addressed as the equivalent of assessing expertise or expert capacity within a framework in which the teachers own knowledge of science is used to establish classroom assessment standards for student understanding. The assessment framework presented is embedded within a more general knowledge-based and research-validated model for in-depth science learning (Science IDEAS). Briefly, the idea of a knowledge-based instructional model (originally applied in intelligent computer-based tutoring systems) includes the following key elements: (a) an explicit representation of the core concepts and relationships to be learned (following the logical structure of the discipline), (b) an explicit set of situations or events to which they are relevant, (c) a set of instructional activities within such situations (e.g., hands-on experiments, reading, journaling) whose successful completion would imply understanding (i.e., demonstrated expertise vs. non-understanding or rote learning), and (d) specific instructional/teaching strategies that would engender student understanding (as defined above). As described above, all of the elements necessary for an expertise-oriented assessment system are included within the knowledge-based model, with the adjustment that the category of instructional/teaching strategies would be broadened to use identified activities for assessment as well as for learning. Within the scope of the knowledge-based Science IDEAS model, the assessment framework presented in the article will focus on six major facets of science understanding: (a) observation of conceptual events occurring in the environment, (b) prediction or control of the future occurrence of events (e.g., through experiments or applications), (c) analysis and explanation of events that have occurred (i.e., abductive reasoning), (d) identification of the relatedness among science concepts, (e) epistemological awareness of how science concepts are learned (e.g., science inquiry), and (f) the communication of scientific knowledge to others. Given the preceding, the major goal of the article will be to present detailed steps (with supportive research-based examples) that science teachers would be able to follow in order to incorporate the knowledge-based assessment framework into their classroom practices to improve the quality of their assessment of student science understanding.

PA35. Integrating An Assessment Plan Into A University/K-12 Engineering Partnership At the University of Colorado at Boulder's College of Engineering and Applied Science, a program places engineering graduate students in K-12 classrooms to use engineering as a vehicle to integrate math and science fundamentals. This collaborative GK-12 Fellows program, funded by the National Science Foundation, is in its third year of implementation. Goals of the K-12 engineering outreach program include enhancing the K-12 mathematics, physical science, and technology curricula; improving teachers' skill and comfort with SMET content knowledge; and modeling a university/K-12 partnership that can be propagated to other engineering colleges. A comprehensive assessment plan is an important component of the GK-12 engineering outreach program. The program's learning objectives are translated into assessment tools, and data are gathered from the five major groups of program participants: university engineering faculty, K-12 teachers, K-12 school administrators, engineering graduate student Fellows, and the older K-12 students. Collecting and integrating data from these diverse sources is challenging, and the results have led to insights into students' understanding of the pre-college engineering curricula, refinements of the GK-12 Fellows program, and evidence of the viability of a university/K-12 pre-collegiate engineering partnership. These results will be further discussed.

PA36. A major issue facing science education reform connecting academic activities to the experiences students face in the world beyond school. Local and national standards demand that science courses not only impart content understanding, but also develop attitudes and skills relevant to learning, living, and working in a knowledge intensive society. Meeting these objectives requires not just new instructional techniques, but also new methods of assessment which measure students' attitudes and skills as well as their content understanding. Project or problem based learning (PBL) has proven to be an effective means of meeting the new instructional challenges, and environmental science in particular it has provided fertile ground for developing scenarios in which science investigations culminate in students making a real world decision in which they apply their understanding in context in order to solve an authentic problem. Effective environmental decision making not only calls for the application of many types of science knowledge (understanding of science content, skill at evidence based reasoning, etc.), it also calls for learning how to combine scientific evidence with values and morals in order to reach decisions. Because of the complexity of this task, existing assessment techniques fail to measure students' progress towards becoming skilled decision makers. What is needed is a suite of formative and summative assessment tools which treat students' decision making processes as distinct from the outcomes of their decisions. We will discuss researcher and teacher perspectives on the development and implementation of these assessment tools which we believe are uniquely suited for taking science understanding beyond the classroom and applying it to choices made in the real world.

PA37. This submission shares portions of a transcript of middle school students (six 7th and 8th grade students) sharing their perspectives on assessment. Some accompanying commentary is provided for context and emphasis. The panel took place at a session entitled "Beyond How Am I Doing" at the CSCL (Computer Supported Collaborative Learning) conference held at Stanford University. The students were from a program housed within a large Bay Area middle school that follows district standards but emphasizes project-based work. Rather than using grades to report on student achievement, the teachers designed a semi-narrative assessment tool for regular progress reports. Students discussed the progress reports from their perspectives both as recipients and as participants in completing parts of the document. In response to questions from the audience (primarily researchers and teachers), the students offered compelling insights into different assessment strategies, grading, comments, learning and achievement, and the relationship between assessment and learning. For example, students commented on how comments on work were more helpful than letter grades or numbers, yet some admitted they still wanted to know how they were doing on some scale from poor to excellent. They spoke of the initial struggles of, but ultimate value of, reflection and peer assessment. After a brief overview of the program and description of the progress report, the text will go right to the students' words. Commentary from the authors will be added where relevant. Artifacts referenced by the students (i.e. reflections, progress reports) will be included as figures to help add context.

PA38. Science educators across the country use science fairs to provide a unique learning experience that cannot be achieved via classroom work alone. Although traditional science fairs are mostly seen as a means of generating enthusiasm for experimentation and independent research, we believe that the science fair has the potential to become a far more comprehensive event which not only cultivate students' investigation and communication skills, but also connects students with peers across grade levels and draws in science practitioners from the local community. We offer an alternative model for science fair that makes strong connections between curriculum and relevant applications, uses rubrics extensively to provide formative and summative assessment of student work, and generates concrete examples as guides for future implementations, and builds community connections. Research indicates that both students and teachers benefit from scaffolding, and rubrics for science fair can provide a powerful tool which not scaffold and direct students' research, but also serve to assess the validity of research project outcomes. Over time, coordinators of rubric-based science fairs can create a database of exemplars to guide future investigations. Science fairs can also be utilized to build the academic community within a district by acting as a site for developing vertical relationships between grade school and high school populations, and by fostering partnerships with external sources such as universities, healthcare agencies, and museums. We suggest an approach - comprehensive in scope - to turn science fairs into science days that improve teaching, learning, science literacy for all stakeholders.

PA39. What Happens When You Teach Science During Math Class? Our action research explores the effect of integrated science and mathematics instruction. Sixth graders participated in integrated activities to reinforce mathematical process and problem solving skills. These math "reinforcement" or enrichment experiences defined the bulk of the science lessons for the year as well. How would these integrated lessons effect student achievement in mathematics or understanding of science? This veteran classroom teacher worked with a university faculty member to select integrated activities centered around airplane construction, water physics, gum chemistry, and plant growth for her sixth graders. Lessons linked to the mathematics curriculum so students practiced math skills while they did science activities. Activity sessions extended over a 2-3 day period. At once students were immersed in exploration, hypothesis building, and mathematical processing activities. Research data included open-ended surveys and Draw-a-Scientist illustrations at the beginning and the end of the school year as well as math TAAS scores at the end of the year. The classroom teacher monitored the data collection and kept observation notes. Collectively, the data presents conclusive evidence that something positively impacted students' learning this year. All students passed the math TAAS and came to think of science as "hard work" but "cool stuff." The most important finding is the sixth graders' resilience or overall confidence and ability to think through difficult problems.

PA40. Abstract: Our school's chemistry department evaluated, through direct application, a number of teaching approaches to improve science teaching. Besides solving our problems with the state standardized test scores we found a significant increase in grades and demonstrated student knowledge. We changed teaching styles, assessment/evaluation and testing approaches, lab grading and more. This lead to some practical guidelines for good teaching that we continue to use in the science department. Since the changes were done with controls and across the board, we ended up with significant data on what worked and what had no effect. In our county ALL students take Chemistry in the 10th grade -- not just college bound students.

PA41. During the past decade, changes in curriculum, delivery of instruction, and student outcomes and assessment have changed the landscape of science education. The first theme of this chapter will address the specific changes in curriculum, instruction, and assessment that have come about as the result of new national and state learning standards in science education. The second theme will focus on the required integration of instructional strategies, curriculum development, and assessment techniques that are relevant to teaching the learning standards in science. We present a strategy entitled "adaptive inquiry," which integrates elements from direct instruction to open-ended inquiry with curriculum and assessment. Adaptive inquiry emanated from the need to address the demands of wide-scale performance-based science assessment in New York State. An analysis of this new form of assessment required teachers to reexamine curriculum, instructional techniques, and measures of achievement. The new challenges in student assessment prompted teachers to review their range of instructional methods. Evidence suggests that effective teachers possess a pedagogical repertoire that varies from direct instruction to open-ended inquiry. Experienced teachers recognize that

students construct knowledge through a variety of pedagogical teaching strategies that lead to the development of adaptive inquiry. Based on years of classroom teaching experience and educational research, we find that students often use factual and procedural knowledge to establish connections with conceptual understanding in science. The conclusion discusses a best-fit model for the alignment of curriculum, instruction, and assessment. To this end, we developed a learning construct which supports optimal learning in science (See Figure 1). Note: Website wouldn't allow the figure. I've submitted the figure via email. Theory-based Clinically-Applied Model: A Strategy for Aligning Curriculum, Instruction, and Assessment Figure taken from Farenga, S. J., Joyce, B. A., & Ness, D. (in press). Reaching the Zone of Optimal Learning: The Alignment of Curriculum, Instruction and Assessment. In R. W. Bybee (Ed.), Learning science and the science of learning. Arlington, VA: NSTA.

PA42. Story telling, or more appropriately termed, story "re-telling" is a wonderful assessment tool for the early childhood classroom.

Science has a natural place in the environment of young children. Children's curiosity and enthusiasm fuel them to be avid observers, questioners and investigators. All too often, early childhood educators believe that science is too hard and developmentally inappropriate for the 2yr-old to 6yr-old set. They claim this by offering anecdotes and stories showing young children unable to explain a complicated concept or define science terms or vocabulary.

Engaging young children in science-rich play and literacy activities, followed by a re-telling time where the teacher facilitates a discussion with the children who describe their experiences, is a wonderful way to bring science into the early childhood classroom. The re-telling assessment technique is designed to engage the young children in verbal recall and story-telling while offering the teacher an assessment vehicle for learning what the children are thinking and what they have experienced.

My research shows Kindergartners enthusiastically engaging in science-rich free-play, dramatic-play and literacy center activities followed by a re-telling time where they are very articulate about their experiences. The re-telling assessment technique, which involves using questioning strategies, will be discussed in detail.

PA43. Problem-Based Science Learning Integrated Through Technology Students often see subject areas as being disconnected. In addition, science is too often not the priority within school districts and therefore is difficult for teachers to incorporate into the elementary classroom. Integrating science with areas such as literacy and social studies, and with powerful uses of technology, enables teachers to incorporate science into their curriculum and provide rich learning experiences for students. Within the teacher preparation program at our university, we teach student teachers to develop units which introduce them to the process of integrating science with other content areas and enhancing curriculum with technology. In this article we will discuss the process through which student teachers develop these units based on some essential questions, and provide a detailed example. One example of such a unit centers around the essential

question "How do historical contexts and life experiences provide a grounding for our accomplishments?" Within this unit, elementary students would identify and research a scientist of their choice. Research would include information specific to that person as well as the time period in which they lived. To complete their research, students would search the internet visiting websites which include primary source materials. Students would engage in historical, narrative writing about four periods of the scientist's life: childhood, adolescence, adulthood, and older age. In order to do this students would have to rely on data they have gathered and make inferences, based on their historical period data, about times in the scientist's life on which no specific information is available. As a second assignment students would create multimedia presentations about the four periods in the life of their chosen scientist. In the article we will illuminate the critical thinking processes within which both student teachers and hence elementary students would be involved. It is these critical thinking benchmark experiences that we use as formative assessment tools. We will explain how we show the methods students how to do this type of instructional "assessment" with young students.

NARST Finance Committee Report
April 6, 2002

Item 1: Receipts for 2001

Section 3. Annual meeting:

Member Registration Fees (begin at line 310). In 2001, registration fees did not cover expenses at the annual meeting. If the Board wants to continue to sponsor the annual meeting only with funds provided by the attendees, there are two obvious choices, perhaps there are others.

1. Increase the registration fees.
2. Select a less expensive meeting location.

Note: In 2002, the Executive Secretary and Meeting Coordinator increased the Member Advance Registration (line 310) from \$130 to \$150.

Item 2: Proposed Disbursements for 2002

Action Item: the Board did not approve this budget in October because the data were not available. Approval required.

Note shaded lines. These items are deleted in the 2002 Budget.

Line 4110- Convention Program, Abstracts: increase from \$10,000 to \$12,000.

Line 4140 – Shipping: increase from \$500 to \$700.

Item 3: Investment Strategy as proposed by Executive Secretary

Financial Committee concurs.

Item 4: NARST Reserve Account

How much? The answer to that is dependent on the goal of the reserve account regarding its potential use. That requires decision by the Board.

As a general rule of thumb, professional organizations retain at minimum accessible cash reserves to cover the expenses of one annual meeting. For example, annual meetings of professional societies that were scheduled shortly after September 11, 2001, were cancelled and those organizations incurred expenses that were not offset by revenue.

Item 5: Recommendation : Change in Composition of Financial Advisory Committee

I propose that the Financial Advisory Committee membership change from selected volunteers from the membership of NARST to the following:

Past President, President, President elect
Executive Secretary
Annual Meeting Coordinator

In general, individuals from the membership do not have the experience or knowledge of the month to month, year to year fiscal management of the organization. The Executive Secretary and Annual Meeting Coordinator should and do make decisions re: the annual meeting expenses. What other day-to-day decisions need to be made that need advice?

The Board should consider broader, conceptual issues about the budget that may include investment ideas, ways to increase membership and attendance at meetings (hence revenue), and development strategies.

National Association for Research in Science Teaching
 NARST Financial Report for 2001
 January 1, 2001 - December 31, 2001

	2000 Budget	2000 Expended 12/31/2000	2000 Difference 12/31/2000	2001 Budget 3/26/2001	2001 Expenses 1/1-12/31	2001 Difference
Disbursements						
1. Journal of Research in Science Teaching	\$81,500	\$81,921	\$421	\$88,000	\$85,352.08	(\$2,648)
1100 Wiley & Sons Publishers	\$57,000	\$57,921	\$921	\$58,000	\$67,352.08	\$9,352
1200 JRST Postage & Supplies	\$3,000		-\$3,000			\$0
1300 Personnel Support for JRST Editor	\$21,500	\$24,000	\$2,500	\$24,000	\$18,000.00	(\$6,000)
1350 Transition Costs for Editor				\$6,000		(\$6,000)
2. Officers & Executive Board Members	\$41,250	\$26,568	-\$14,682	\$43,000	\$22,863.99	(\$20,136)
2100 President	\$4,000	\$1,342	-\$2,658	\$4,000	\$914.58	(\$3,085)
2150 President's Contingency Fund				\$3,000	\$1,842.25	(\$1,158)
2200 President-Elect Expenses	\$6,000		-\$6,000	\$6,000	\$1,107.49	(\$4,893)
2300 Past President	\$1,000		-\$1,000	\$1,000	\$632.91	(\$367)
2400 NARST Archivist (Joslin)	\$0		\$0			\$0
2500 Executive Board Meetings						\$0
2510 Spring (2 meals)	\$1,500	\$929	-\$571	\$1,500	\$1,251.29	(\$249)
2520 Fall (17 travelers)	\$18,000	\$18,480	\$480	\$18,000	\$14,750.47	(\$3,250)
2600 Standing Committee Chairs (17@ \$100; 2@ \$1,000)	\$3,700		-\$3,700	\$3,700		(\$3,700)
2700 Newsletter Editor (2@ \$1,250 per issue)	\$3,750	\$3,750	\$0	\$2,500		(\$2,500)
2800 President Travel (Outside NARST)	\$800	\$738	-\$62	\$800		(\$800)
2900 Travel to CSSP	\$2,500	\$1,329	-\$1,171	\$2,500	\$2,365.00	(\$135)
3. Executive Secretary	\$50,300	\$42,584	-\$7,716	\$43,000	\$33,194.32	(\$9,806)
3050 Equipment/Maintenance	\$500	\$60	-\$440	\$2,500	\$4,007.92	\$1,508
3100 Supplies	\$1,000	\$2,042	\$1,042	\$1,500	\$995.70	(\$504)
3150 Printing	\$4,000	\$4,060	\$60	\$4,500	\$2,402.66	(\$2,097)
3200 Postage	\$14,000	\$11,785	-\$2,215	\$12,000	\$5,361.06	(\$6,639)
3300 Telephone (\$277.50 per Month)	\$3,600	\$2,086	-\$1,514	\$3,000	\$1,383.11	(\$1,617)
3400 Miscellaneous	\$600	\$2,998	\$2,398			\$0
3500 Note: moved to section 4						\$0
3600 Booth & ES Travel to NSTA Convention 2000	\$2,500	\$1,510	-\$990			\$0
3700 Personnel Support	\$18,000	\$17,296	-\$704	\$18,000	\$16,910.42	(\$1,090)

National Association for Research in Science Teaching
 NARST Financial Report for 2001
 January 1, 2001 - December 31, 2001

	2000 Budget	2000 Received 12/31/00	2000 Difference 12/31/00	2001 Budget 3/26/01	2001 Received 9/30/01	2001 Difference 12/30/01	2002 Budget
1. Balance Brought Forward	\$223,126						
General Funds	\$171,866						
Savings Account	\$51,260						
Receipts							
2. Membership Dues	\$117,339	\$110,263	-\$7,076	\$139,175	\$176,541.00	\$37,366	\$176,515
210 Regular (\$100)	\$96,600	\$93,912	-\$2,688	\$115,000	\$151,217.00	\$36,217	
220 Student w/JRST (\$50)	\$14,400	\$12,280	-\$2,120	\$18,000	\$19,949.00	\$1,949	
220 Emeritus w/JRST (\$50)	\$3,400	\$1,120	-\$2,280	\$4,250	\$2,564.00	(\$1,686)	
230 Student w/o JRST (\$15)	\$980	\$980	\$0	\$1,050	\$2,108.00	\$1,058	
240 Emeritus w/o JRST	\$0	\$0	\$0	\$0	\$0	\$0	
250 Sustaining (\$175)	\$159	\$477	\$318	\$875	\$700.00	(\$175)	
260 Service Charges (\$3)	\$1,800	\$1,494	-\$306	\$0	\$3.00	\$3	
3. Annual Meeting	\$104,485	\$106,302	\$1,817	\$103,810	\$92,997.85	(\$10,812)	\$110,560
310 Member Advance Registration (\$130)	\$52,000	\$53,055	\$1,055	\$52,000	\$48,880.00	(\$3,120)	
315 Non-Member Advance Registration (\$155)	\$6,200	\$5,580	-\$620	\$6,200	\$3,720.00	(\$2,480)	
320 Student Advance Registration (\$55)	\$11,000	\$8,470	-\$2,530	\$11,000	\$10,340.00	(\$660)	
325 Student Non-Member Advance Registration (\$85)	\$255	\$255	\$0	\$255	\$510.00	\$255	
330 Member On-Site Registration (\$155)	\$12,710	\$16,430	\$3,720	\$12,710	\$13,950.00	\$1,240	
335 Non-Member On-Site Registration (\$175)	\$2,275	\$1,770	-\$505	\$2,275	\$1,400.00	(\$875)	
340 Student Member On-Site Registration (\$55)	\$2,750	\$4,345	\$1,595	\$2,750	\$1,100.00	(\$1,650)	
345 Student Non-Member On-Site Registration (\$85)	\$170	\$255	\$85	\$170	\$510.00	\$340	
350 Advance One Day Registration (\$50)	\$2,000	\$650	-\$1,350	\$2,000	\$1,250.00	(\$750)	
355 On-Site One Day Registration (\$60)	\$3,300	\$2,950	-\$350	\$3,300	\$2,640.00	(\$660)	
360 Workshop Registration (\$50)	\$4,500	\$5,900	\$1,400	\$4,500	\$4,215.00	(\$285)	
365 Banquet Only (\$35)	\$1,050	\$595	-\$455	\$1,050	\$280.00	(\$770)	
440 Wiley Contribution to JRST Editorial Board	\$2,600	\$2,600	\$0	\$2,600	\$2,602.85	\$3	
380 Commercial Exhibits and Commercial Ads	\$2,500	\$2,400	-\$100	\$2,500	\$1,600.00	(\$900)	
385 Kluwer Contribution to Past Presidents Reception	\$500	\$300	-\$200	\$500	\$0	(\$500)	
390 Service Charges (\$3)	\$675	\$747	\$72	\$0	\$0	\$0	
4. Sales and Royalties	\$92,720	\$103,811	\$11,091	\$102,960	\$107,269.48	\$4,309	\$108,960
410 Mailing Labels (\$120)	\$720	\$960	\$240	\$960	\$937.17	(\$23)	
420 Wiley Royalties	\$90,000	\$101,779	\$11,779	\$100,000	\$105,689.66	\$5,690	
430 NARST Monographs and Books (\$8)	\$2,000	\$1,072	-\$928	\$2,000	\$642.65	(\$1,357)	\$4,000
5. Other	\$1,890	\$2,500	\$610	\$2,500	\$3,372.00	\$872	
510 Contributions	\$0	\$0	\$0	\$0	\$1,500.00	\$1,500	
520 Interest	\$1,890	\$2,500	\$610	\$2,500	\$778.50	(\$1,722)	

\$400,035

530 Miscellaneous	\$0	\$0	\$0	\$1,093.50	\$1,094
Total Receipts	\$316,434	\$322,876	\$6,442	\$380,180.33	\$31,735
Cost Sharing	\$86,500	\$82,565	-\$3,935	\$0.00	(\$88,000)
Michigan State University/Arizona State University	\$36,200	\$36,200	\$0		(\$37,200)
The Ohio State University	\$50,300	\$46,365	-\$3,935		(\$50,800)

National Association for Research in Science Teaching
 NARST Financial Report for 2002
 January 1, 2002 - December 31, 2002

Delete for 2002

Disbursements	2001 Budget 3/26/01	2001 Expenses 1/1-12/31	2001 Difference	2002 Proj. Budget
1. Journal of Research in Science Teaching	\$88,000	\$85,352.08	(\$2,648)	\$82,000
1100 Wiley & Sons Publishers	\$58,000	\$67,352.08	\$9,352	\$58,000
1300 Personnel Support for JRST Editor	\$24,000	\$18,000.00	(\$6,000)	\$24,000
1350 Transition Costs for Editor	\$6,000		(\$6,000)	\$0
2. Officers & Executive Board Members	\$43,000	\$22,863.99	(\$20,136)	\$43,950
2100 President	\$4,000	\$914.58	(\$3,085)	\$4,000
2150 President's Contingency Fund	\$3,000	\$1,842.25	(\$1,158)	\$3,000
2200 President-Elect Expenses	\$6,000	\$1,107.49	(\$4,893)	\$6,000
2300 Past President	\$1,000	\$632.91	(\$367)	\$1,000
2400 NARST Archivist (Joslin)			\$0	
2500 Executive Board Meetings	\$1,500	\$1,251.29	(\$249)	\$1,500
2510 Spring (2 meals)	\$18,000	\$14,750.47	(\$3,250)	\$18,000
2520 Fall (17 travelers)	\$3,700		(\$3,700)	\$0
2600 Standing Committee Chairs (17@ \$100; 2@ \$1,000)	\$2,500		(\$2,500)	\$2,500
2700 Newsletter Editor (\$1,250 per issue)	\$800		(\$800)	\$800
2800 President Travel (Outside NARST)	\$2,500		(\$135)	\$2,500
2900 Travel to Affiliated Groups				
2910 CSSP (2 meetings)				
2920 ICASE				
2930 NSTA Research Committee				
2940 AETS				
3. Executive Secretary	\$43,000	\$33,194.32	(\$9,806)	\$56,000
3050 Equipment/Maintenance	\$2,500	\$4,007.92	\$1,508	\$2,500
3100 Supplies	\$1,500	\$995.70	(\$504)	\$1,500
3150 Printing	\$4,500	\$2,402.66	(\$2,097)	\$4,500
3200 Postage	\$12,000	\$5,361.06	(\$6,639)	\$12,000
3300 Telephone (\$277.50 per Month)	\$3,000	\$1,383.11	(\$1,617)	\$3,000
3400 Miscellaneous			\$0	
3500 Note: moved to section 4			\$0	
3600 Booth & ES Travel to NSTA Convention 2000			\$0	
3700 Personnel Support	\$18,000	\$16,910.42	(\$1,090)	\$18,000
3750 Personnel (Publications Editing, Board Book)			\$0	
3800 Bank Card Service Charge	\$1,500	\$2,133.45	\$633	\$1,500
3900 Committee Support			\$0	

2002 Change

- 3050 Executive Secretary (Syracuse)
- 3100 Administrative Assistant (MU)
- 3200 Operating Expenses (MU)

\$15,000
\$16,000
\$25,000
\$114,200

4. Annual Meeting

\$109,950 \$124,303.50 \$14,354

Annual Meeting Coordination

- 3500 Site Reviews
- 3510 Travel/Planning-2003 Meeting
- 3520 Travel for 2003, 2004, 2005 sites
- 4150 Annual Meeting Coordinator
- Other Annual Meeting Expenses**
- 4110 Convention Program/Abstracts Attendees Only
- 4130 Awards
- 4140 Shipping
- 4145 Interpreters
- 4200 Pre-conference Workshops (2 @ \$1,500)
- 4210 Honoraria (2 @ \$250)
- 4220 Supplies (2 @ \$300)
- 4300 General Session Speakers (3 @ \$2,200)
- 4310 Honoraria (3 @ \$1,000)
- 4320 Travel/Hotel (3 @ \$1,500)
- 4400 Travel/Hotel/Meals for JRST Eds, ES, & AMC
- 4500 Hotel for President, President-Elect, Past President
- 4600 Events/Functions
- 4610 Awards Banquet
- 4620 Session Breaks
- 4630 Continental Breakfast for NARST Committees
- 4640 NARST Reception New Members
- 4642 General NARST Member Reception
- 4645 Past President Reception
- 4660 Executive Board Meeting Dinner
- 4670 JRST Editorial Board Meeting
- 4700 Equipment Rental
- 4710 Overhead Projectors
- 4720 VHS Equipment
- 4730 Rear Projection Unit
- 4740 Microphones/Walkie-Talkies
- 4800 MU/Syracuse Registration Help
- 4810 Editing (e.g. Program & Abstract)
- 4850 OSU Secretary Registration Help
- 4900 Convention Supplies

\$1,800
\$1,600
\$20,000
\$18,000.00
\$987.60
\$1,800
\$1,600
\$20,000
\$1,800
\$900
\$500
\$2,000
\$500
\$600
\$3,000
\$4,500
\$2,400
\$2,400
\$28,000
\$1,500
\$2,500
\$7,000
\$800
\$800
\$2,600
\$4,700
\$1,700
\$550
\$9,000
\$600
\$7,500
\$5,000

(\$1,800)
(\$612)
(\$2,000)
(\$2,090)
(\$367)
\$143
(\$2,000)
\$0
(\$300)
\$0
\$0
(\$2,700)
(\$122)
(\$460)
(\$8,067)
\$20,625
\$477
\$0
\$5,097
(\$199) (Kluwer Paid)
\$675
(\$2,600) (Wiley Paid)
\$11,797
(\$1,150)
(\$550)
\$1,013
(\$430)
\$0
\$0
(\$26)
(\$2,408)
\$92

\$500.00
\$300.00
\$3,000.00
\$1,800.00
\$2,278.26
\$1,940.25
\$19,932.87
\$22,125.18
\$2,977.28
\$12,097.04
\$601.40
\$1,475.46
\$16,496.50
\$550.00
\$1,012.50
\$8,569.74
\$574.04
\$5,092.42
\$5,092.42

5. Publication of Documents

- 5100 Newsletter (2 issues @ \$2,500)

\$7,500
\$5,000

5110 Newsletter Final Editing	\$500	\$0	\$0
5200 Research Matters	\$2,000	(\$500)	(\$500)
5300 NARST Monographs and Other Publications		(\$2,000)	(\$2,000)
5500 Membership Directory		\$0	\$0
6. Other (Association Membership & Services)	\$17,095	\$795.00	(\$16,300)
6100 ICASE dues	\$300		(\$300)
6200 Triangle Coalition		\$0	\$0
6300 Insurance Policy (Off, Liability, & Premises)	\$3,000		(\$3,000)
6400 Attorney		\$0	\$0
6500 Accountant	\$3,000		(\$3,000)
6600 Saving Account (Managed by American Express)		\$0	\$0
6700 CSSP dues	\$795	\$795.00	\$795
6800 Web Master	\$3,500		(\$3,500)
6900 Transition to New Web Master	\$6,500		(\$6,500)
Total Disbursements	\$308,545	\$271,601.31	(\$36,944)

Assets			
2002	Money Market Account as of (02/11/02)	\$55,500	
2002	Estimate Receipts	\$400,035	
2002	Estimate Disbursements	\$314,245	
2002	Estimate Profit	\$85,790	
2002	Estimate NARST Account Balance	\$428,234	

			\$2,500
			\$10,595
			\$300
			\$3,000
			\$3,000
			\$795
			\$3,500
			\$0
			\$314,245

Policy Advisory Committee Report
March, 2002

Chair: Sandra Abell (02)

Members: Ann Cavallo (04), Tom Koballa (04), Jeff Bloom (03), William Sumrall (03), John Staver (02), Kathleen Hogan (02)

Activities:

1. The Policy and Procedures manual (see Tab 28) was updated after the October, 2001 Board meeting. It now includes policies approved at that meeting as well as updated procedures for all committees, and is available on the NARST web site. Chairs of standing committees who make changes to their committee procedures should notify the Chair of the Policy Advisory Committee once a year, before the October board meeting, who will make the necessary changes in the manual, and forward them to the Webmaster.
2. The committee, with input from the Chair of the International Committee and the NARST President created a draft Policy for Affiliates, Associated Groups, and Organizational Memberships (see attached).

#10 **MOTION:** Move to approve the Policy for Affiliates, Associated Groups, and Organizational Memberships and add it to the NARST Policy and Procedures Manual.

Me To #11
3. Based on the outcome of this motion, the board needs to discuss the application of the Japan Society for Science Education as an Associated Group.

- #11
4. The Policy Advisory Committee received a new policy on NARST Membership Classes to review from the Membership Committee (see attached). The Policy Advisory Committee asks the Board to consider this policy with a few changes:
 - Use the same language for the 2 Emeritus categories, except for the JRST subscription.
 - Change the language for student membership so as to include more students (e.g., elementary education).
 - Change the language for student without JRST from "does not want a JRST subscription" to "chooses not to receive."
 - Change reporting of dues from dollar amount to, for example, percentages (e.g., Student membership will be ½ of regular membership). In any case, the Policy should be separate from the amount charged for dues, which should appear in the procedures part of the manual.

Motion #12
MOTION: Move to approve the Policy for Membership Classes with the changes recommended by the Policy Advisory Committee, and ~~add it to the NARST Policy and Procedures Manual.~~

send it to NARST membership for a vote.

NARST Policy for Affiliates, Associated Groups, and Organizational Memberships

DRAFT DOCUMENT

NARST Bylaws on affiliation:

Article X: Affiliations with External Organizations

The Board of Directors selects external organization with which NARST is affiliated and appoints NARST representatives to the organization.

The Board of Directors may invite a representative of affiliated organizations to serve on the Board ex-officio members.

Purpose:

NARST seeks to work cooperatively with science education professional societies whose goals and membership overlap with those of NARST. NARST does this by establishing Affiliates and Associated Groups and by maintaining Organizational Memberships in like-minded professional societies. In this way, NARST and other societies can consolidate efforts and take advantage of respective areas of expertise and spheres of influence. NARST provides input to Affiliates, Associated Groups, and Organizational Memberships with a broad view of the state of science education and specific directions that might be taken by the respective society. The specific areas of expertise of these societies and the mission of NARST interface and provide a solid base for decision making and action.

Definitions:

Affiliate: An Affiliate to NARST is a professional society with reciprocal representation in each society's leadership structure. Currently, NARST Affiliates include NSTA and AETS.

Associated Group: An Associated Group shares interests and activities with NARST, but does not share reciprocal representation in the society's leadership. Currently NARST has no identified Associated Groups, but has considered association with ESERA and the Society of Japan Science Teaching.

Organizational Membership: NARST, as a professional society, registers as a member, and in some cases pays membership dues, to certain organizations to allow participation on matters related to science education. Typically Organizational Membership includes sending a NARST representative to meetings of the organization. Current NARST memberships include AAAS, ICASE, and CSSP.

Guidelines, Procedures, and Responsibilities for Becoming an Affiliate of NARST: Requirements for Consideration as an Affiliate

A professional society may become an Affiliate of NARST if it aligns with one or more parts of the NARST mission. In particular, a society seeking Affiliate status will:

1. Have at the core of its mission a dedication to promoting quality science education;
2. Be a not-for-profit 501 (c) (3) organization;

3. Have an elected board of officers that represent the society.

Procedures for Creating and Dissolving Affiliates

Procedures for Affiliation:

1. The NARST Policy Advisory Committee will receive and evaluate all Affiliate nominations and make a recommendation to the NARST Board. Nominations should include a letter from the governing body of the nominated society indicating that society's mission, their reasons for seeking affiliation, and specific ways affiliation will benefit the respective societies.
2. The NARST Board will vote on the nomination.
3. The NARST President will discuss the results of the vote with the Affiliate governing body. In the case against affiliation, the Presidents will inform the governing body of the reasoning of the NARST Board. In the case of a vote for affiliation, the President will finalize rights and responsibilities governing the affiliation (see below) with the Affiliate governing board.

Procedures for Dissolution:

1. An Affiliate may dissolve its affiliation with NARST at any time by submitting a letter to the NARST President, who will inform the board of the intents of the Affiliate.
2. NARST may dissolve affiliation with a professional society via deliberation and action of the NARST Board. The NARST President will inform the Affiliate of the results of such deliberation.

Rights and Responsibilities of NARST and Affiliates

The NARST President or designee will:

- Represent NARST on the governing body of the Affiliate.
- Serve a term of 2-3 years.
- Fulfill responsibilities of NARST representative as governed by the bylaws and operating policies of the Affiliate.

A representative of the affiliate will:

- Serve on the NARST Board of Directors in a non-voting capacity.
- File a biannual report to the NARST board and fulfill any other responsibilities as governed by NARST bylaws and operating policies.

The NARST and Affiliate governing bodies will:

- Determine organizational responsibilities in financing travel to respective board meetings.
- Determine how to promote the respective missions of the organizations, including, but not limited to:
 - Joint publications;
 - Service on committees and task forces;
 - Advertising
 - Dual membership;
 - Shared sessions at respective professional meetings of the societies.
- Communicate with each other on changes of Affiliate representatives, officers, relevant bylaws and procedures, and other matters through their respective representatives.

Guidelines, Procedures, and Responsibilities for Becoming an Associated Group of NARST:

Requirements for Consideration as an Associated Group

An Associated Group has a mission that overlaps with NARST's and has interest in associating with NARST to meet that mission.

Procedures for Creating and Dissolving Associated Group

Procedures for Association:

1. The NARST Policy Advisory Committee will receive and evaluate all Associated Group nominations and make a recommendation to the NARST Board. Nominations should include a letter from the governing body of the nominated society indicating that society's mission, their reasons for seeking association with NARST, and specific ways such association will benefit the respective societies.
2. The NARST Board will vote on the nomination.
3. The NARST President will discuss the results of the vote with the Associated Group governing body.

Procedures for Dissolution:

1. An Associated Group may disassociate with NARST at any time by submitting a letter to the NARST President, who will inform the board of the intents of the Associated Group.
2. NARST may dissolve association with a professional society via deliberation and action of the NARST Board. The NARST President will inform the Associated Group of the results of such deliberation.

Rights and Responsibilities of NARST and Associated Group

The NARST and Associated Group governing bodies will:

- Determine how to promote the respective missions of the organizations, including, but not limited to:
 - Joint publications;
 - Advertising
 - Dual membership;
 - Shared sessions at respective professional meetings of the societies.
- Determine how to maintain communications with each other on activities of the society.
- Determine how to advertise their association (e.g., via web sites, official notices in the societies' publications).

Guidelines, Procedures, and Responsibilities for NARST Membership in Professional Organizations:

Requirements for Considering a NARST Membership

NARST considers membership as an organization in societies that share some part of their mission with NARST. NARST membership in that society must promote the NARST mission and benefit NARST members.

Procedures for Creating and Dissolving Memberships

Procedures for Creating Memberships:

1. The NARST Policy Advisory Committee will receive and evaluate all nominations for NARST to become an Organizational Member and make a recommendation to the NARST Board. Nominations should include a letter from the governing body of the nominated society indicating that society's mission, their reasons for seeking association with NARST, and specific ways such association will benefit the respective societies.
2. The NARST Board will vote on the nomination.
3. The NARST President will discuss the results of the vote with the appropriate governing body of the membership society.

Procedures for Dissolution:

3. A society may dissolve NARST membership at any time by submitting a letter to the NARST President, who will inform the board of the intents of the society.
4. NARST may dissolve membership in a professional society via deliberation and action of the NARST Board. The NARST President will inform the society of the results of such deliberation.

Rights and Responsibilities of Membership

The NARST, as an organizational member in a professional society will:

- Support travel by a NARST representative to meetings of the society;
- Pay dues as required;
- Fulfill other responsibilities associated with the membership.

The NARST representative to the professional society will:

- Fulfill responsibilities to the society associated with their representation.
- Submit a written report biannually to the NARST board concerning their work in that society.

To: NARST Policy Advising Committee
From: J. Randy McGinnis, Chair, Membership Committee
Date: 2/ 28/02
RE: NARST Membership Classes

In response to a charge presented to the Membership Committee by Norm Lederman (NARST president) to review existing NARST membership classes, the following information is being sent to the NARST Policy Advising Committee for consideration. If approved, the changes must be presented to the board as a motion. In addition, any changes to the bylaws will necessitate a vote by the association's members. .

I. Background

A. A review of the existing NARST Bylaws indicates 5 classes of membership:

“The Association has five classes of membership- Regular, Sustaining, Patron, Student, and Emeritus.

Regular Members enjoy the full rights and responsibilities of Association membership. Regular Members are assessed annual dues at a rate set by the Board of Directors.

Sustaining Members enjoy the full rights and responsibilities of Association membership. Sustaining Members, in addition to paying annual dues, make annual contributions to the Association at a rate set by the Board of Directors.

Patron members enjoy the full rights and responsibilities of Association Membership. Patron Members, in addition to paying annual dues, make annual contributions to the Association at a rate set by the Board of Directors.

Student Members are enrolled in an institution of higher education. Student Members enjoy the full rights and responsibilities of membership in the Association. Student Members are assessed annual dues at a rate set by the Board of Directors.

Emeritus Members are members in good standing who have retired from professional service. Emeritus Members enjoy the full rights and responsibilities of membership in the Association. Emeritus Members are not assessed dues.”

B. A review of our existing NARST membership application (as posted on the NARST website) indicates 6 classes of membership with no descriptions provided:

“Membership Category (Please select one):

Regular with JRST (\$100.00 US)
Student with JRST (\$50.00 US)

Emeritus with JRST (\$50.00 US)
Student without JRST (\$15.00 US)
Emeritus without JRST (no charge)
Sustaining with JRST (\$175.00 US)”

II. Process of Review and Identification of Proposed Changes

An analysis of three other professional associations' membership classes involved with science education (AERA, AETS, and NSTA) assisted in this review.

The proposed description changes to the membership classes seek to increase clarity of our existing classes of membership as listed on the NARST membership application form. The proposed changes describe membership classes that currently are offered on our application form but are not listed explicitly in our association's bylaws (student and emeritus without JRST). The proposed changes remove one membership class (“patron”) that was inadequately described in the bylaws and is not listed currently on our application form. Finally the proposed membership classes includes a new class of membership that could benefit potentially our association (“Institutional Membership”).

II. Proposed Membership Classes

Membership Classifications

There are seven classifications of membership in the Association. With the exception of Institutional Membership (that comes with no voting rights), all members have the same voting rights.

1. Regular

Any individual concerned with research in science education who has paid annual dues holds Regular with JRST membership and receives a subscription to JRST.

2. Student with JRST

Any enrolled student (defined as anyone enrolled more than half-time in a science teacher certification or graduate program, as attested to by a faculty member) concerned with research in science education who has paid annual dues holds Student with JRST membership and receives a subscription to JRST.

3. Emeritus with JRST

Available only to individuals in good standing who have retired from professional service (e.g., from an institution or university) are designated as holding Emeritus with JRST membership and receives a subscription to JRST.

4. Sustaining

Any member who pays the multiple of the base rate for annual dues, as established by the Board, holds Sustaining with JRST membership and receives a subscription to JRST.

.....

5. Institutional

Any institution (e.g., a university or library) concerned with research in science education that has paid annual dues as established by the Board of Directors, may hold Institutional with JRST membership and receive a subscription to JRST.

6. Student without JRST

Any enrolled student (~~defined as anyone enrolled more than half-time in a science teacher certification or graduate program, as attested to by a faculty member~~) concerned with research in science education who does not want a JRST subscription holds Student without JRST membership.

7. Emeritus without JRST

Available only to those individuals in good standing who have retired from professional service (e.g., from an institution or university) who have been nominated and conferred by the Board of Directors through established procedures will be recognized as holding Emeritus without JRST membership and not receive a subscription to JRST.

Classification	Dues	Benefits
Regular	\$100.00 US	JRST, the <u>NARST Newsletter</u> , NARSTNET membership, member rates to the annual meeting and NARST publications, and access to association activities.
Student with JRST	\$50.00 US	JRST, the <u>NARST Newsletter</u> , NARSTNET membership, student rates to the annual meeting and NARST publications, and access to association activities.
Emeritus with JRST	\$50.00 US	JRST, the <u>NARST Newsletter</u> , NARSTNET membership, emeritus rates to the annual meeting and NARST publications, and access to association activities.
Sustaining	\$175.00	JRST, the <u>NARST Newsletter</u> , NARSTNET membership, member rates to the annual meeting and NARST publications, and access to association activities.
Institutional	TBD	<u>JRST</u> .
Student without JRST	\$15.00	<u>NARST Newsletter</u> , NARSTNET membership, student rates to the annual meeting and NARST publications, and access to association activities.
Emeritus without JRST	None	<u>NARST Newsletter</u> , NARSTNET membership, emeritus rates to the annual meeting and NARST publications, access to association activities, and recognition in the <u>NARST Program and Abstracts</u> .

Publications Advisory Committee Report
April, 2002
New Orleans, LA

Committee Members:

Charlene M. Czerniak, Chair
Larry Flick
Julie Luft
Roger Johnson
Dale Baker, JRST Editor
Mike Piburn, JRST Editor
Helen Parke, NARST NEWS Editor
Randy Yerrick, NARST NEWS Editor
David B. Zandvliet, Director of Electronic Services
Ex-officio: Maureen McMahon

Committee Members (new):

Charlene Czerniak, Chair
Roger Johnson
Larry Flick
Steve Gilbert
Dale Baker
Mike Piburn
Helen Parke
Randy Yerrick
David Zandvliet
Ex-officio:
Cheryl Mason
Patricia Simmons

1. NARST-Electronic Services Report:

Listserv

On a periodic basis, communication was sent to Carson Au regarding concerns with the listserv and inappropriate postings or messages. These were always corrected promptly.

Web site

The Publication Advisory Committee responded to David Zandvliet's front page web design and offered suggestions for the content of the web page. For example, many individuals suggested a membership directory complete with mailing addresses, phone numbers, and e mail addresses. Other suggestions included a site map, mission statement, link to the on-line version of JRST, the new joint NSTA/NARST publication, meeting minutes, NARST policies, a section where people can volunteer to serve NARST, and a way to e-mail whole committees from the web site.

Also discussed was the possibility of having Marilyn Estes or David Zandvliet have an e-mail distribution list (not a listserv) to enable the NARST leadership to notify members of important news such as the publication of NARST News on line, conference registration, etc. This is needed to enable us to contact all members, regardless if they elect to register on the Listserv.

Notes from the NARST Board retreat a few years ago were shared with David Zandvliet to provide additional suggestions including methods of communication, position statements,

recruitment mechanisms, publications, program information, award information, and a community of researchers section for communication among members. See David Zandvliet's report below for more detail:

NARST Electronic Services Report – March 2002 Submitted by David Zandvliet

Part way through the current academic year, I offered to undertake the role of Electronic Services Director for NARST in addition to my new duties as Annual Meeting Coordinator. For most of the current year, these duties have overlapped. The duties include directing the maintenance and continued development of NARST electronic services including the NARST Website and ListServe.

Porting the NARST Site to SFU

Initially, I worked with a web developer on my staff (Carson Au) to move the NARST web site from its previous hosting institution where it was maintained by the Beth Klein. This involved purchasing web-domain hosting services from a third party so that inquiries would be consistently forwarded to the site at <http://www.narst.org>. Secondly, the site was ported to Simon Fraser University and a dedicated web-server purchased for hosting the web site. Throughout the year, a number of maintenance related tasks were performed on the site including the updating of NARST information provided on the site, the updating of links and the addition of information such as the NARST Policy and Procedures document.

Submission and Review Process

Carson Au and I worked on developing a new website to facilitate the NARST Proposal and Review process. The website was well received by the membership and resulted in a significant increase in the number of proposals that were sent out for review. However, the site could be improved and made more explicit to proposers. Many new members were unfamiliar with the submission formats and general process and therefore made substantial errors in their proposals. I believe that next year the process will be further streamlined by making a few minor technical improvements to the proposal site which will aid proposers in selecting appropriate formats and also assist the program committee by automating aspects of the error-checking process for proposals.

NARST General Information Site

Carson Au and I also worked with members of the international and publications committees to draft some ideas around the structure of the proposed new NARST Site. We decided on going with a similar look and feel to the new proposal submission site and have done some preliminary work on a 'splash page' for the new site, which is available for viewing at:

<http://www.educ.sfu.ca/narstdraft/>

Further details will be worked out over the coming months about which portions of the current site are most useful to our members and which can be economically maintained (e.g. some features of the old site, such as position announcements are likely more appropriately designated for distribution on the NARST ListServe).

Future Possibilities

Possible Enhanced Features for the NARST Web Site might include:

- 1) Posting of other NARST Business documents for viewing by the membership
- 2) Provision of a discussion board to facilitate dialogue among NARST members
- 3) Expansion of 'selected papers' section to a full conference proceedings indexed on the web

2. NARST NEWS:

Submitted by Helen Parke and Randy Yerrick

3/5/02

Thank you to all those involved with the January NARST News. Everyone worked as a team to get the mailing out to our international members. We have adjusted the mailing information on NARST News to reflect the address of Marilyn Estes', NARST's new Administrative Assistant.

Randy will take the lead on the June NARST News. If anyone has information to be published, please send to Randy by April 15. If information is generated at the NARST meeting, please send to Randy at ryerrick@mail.sdsu.edu

We will need to have the following (NOTE: These dates should be put in the NARST manual that ~~Sandy Abell is developing with Marilyn Estes~~ for procedures and dates):

- Norm L. Sherman*
- *Presidential Address (Due April 15th)
 - *Copy of President's Speech delivered at NARST
 - *New Committee Chair Announcements (Due April 15th)
 - *Awards Committee Chair Call for Nominations (Due April 15th)
 - *Awards Presented at the Annual Meeting (Due April 15th)
 - *General Membership Announcements (Due April 15th)
 - *Board and Committee Announcements/ Link to Minutes (Due April 15th)
 - *Call for Proposals (To be sent by May 1st)

3. A Proceedings Volume

At the fall board meeting, David Zandvliet discussed the possibility of publishing a "Conference Proceedings Volume." This possibility was discussed extensively among the Publication Advisory Committee members. Some individuals liked the idea of a "quick publication," but there was little support for the idea among the members of the committee. Most questioned whether we had the machinery to engage in an additional publication, raised issue regarding copyright with Wiley, and questioned the message we would send by encouraging an unrefereed publication for our members. Some suggested AETS as a model, and others noted that ERIC is always an option for people. Mike Piburn and Dale Baker researched the topic of Proceedings Volumes. The Publication Advisory Committee will be reviewing the report from the JRST editors at our committee meeting in April 2002 and bringing a recommendation to the NARST Board. A report from the JRST editors regarding this type of publication follows:

Policy with Regard to Proceedings Volumes
Michael Piburn and Dale Baker
February 19, 2002

Our staff has reviewed the Instructions to Contributors from several journals, and found no specific language regarding prior publication of submissions in proceedings volumes. Closest to this are policy statements regarding prior publication in general.

The *Journal of Educational Psychology* states their policy as follows:

“APA policy prohibits an author from submitting the same manuscript for concurrent consideration by two or more journals. APA policy also prohibits duplicate publication, that is, publication of a manuscript that has already been published in whole or in substantial part elsewhere. Prior and duplicate publication constitutes unethical behavior, and authors have an obligation to consult journal editors if there is any chance or question that the paper might not be suitable for publication in an APA journal.”

The APA manual refers to the subject by stating:

“An author must not submit to an APA journal a manuscript describing work that has been published in whole or in substantial part elsewhere. This policy does not necessarily exclude from consideration manuscripts previously published in abstracted form (e.g. in the proceedings of an annual meeting) or in a periodical with limited circulation or availability (e.g., in a report by a university department or by a government agency). This policy does exclude the same or overlapping material that has appeared in a publication that has been offered for public sale, such as conference proceedings or a book chapter; such a publication does not meet the criterion of ‘limited circulation.’”

Another issue to consider is that of copyright permissions. The APA manual states, “Duplicate publication can also lead to copyright violations; an author cannot assign copyright to more than one publisher.” This is an important issue for John Wiley & Sons, since they require a copyright transfer agreement from authors.

After reviewing three Proceedings volumes, we found the following:

1) “Reproduction of papers in this seminar report does not preclude publication of the papers in other books or journals. Copyright permission to quote or reprint pages should be sought by (sic) the authors.”

Proceedings of the ICASE Seminar, 1992

2) “These papers have been collected and bound together for the convenience of the members of the Australian Association for Research in Education. Copyright for the material in this volume rests with the authors. Any request for permission to reproduce all or part of a paper should be directed to the author(s) concerned.”

Australian Association for Research in Education, Annual Conference, 1985

3) “All rights reserved. No part of these proceedings may be reproduced by any means without permission. These proceedings can be ordered from: Science and Mathematics Centre, Curtin University.”

Proceedings of the 1997 International Conference on Science, Mathematics and Technology Education

Based on these examples and APA policy, we would like to make the following recommendations:

1) Contributions to proceedings volumes compiled from papers submitted by authors before an annual meeting should be eligible for publication in the *Journal of Research in Science Teaching* with the following provisions: the proceedings volume is made available at no additional cost to all those attending the meeting, and to no-one else; all papers that are submitted are included in the proceedings volume, and; there is no editorial process. Therefore, the proceedings volume would amount to a collection of conference papers put together for the convenience of participants. In this case, copyright permission would remain with the authors.

2) When NARST publishes papers in any volume that is made publicly available, these papers would not be eligible for publication in the *Journal of Research in Science Teaching*. In this case, the National Association for Research in Science Teaching would hold the copyrights.

We concur with the authors of the APA manual that "Duplicate publication distorts the knowledge base by making it appear there is more information available than really exists. It also wastes scarce resources." Under no circumstances should the issuance of a proceedings volume be seen as an easy way for authors to achieve publication.

4. Board Reorganization Impact on Publications Committee

Charlene Czerniak worked with Norm Lederman and Frank Crawley to review and provide constructive suggestions regarding the NARST Board Reorganization and "Mapping" of responsibilities for the Publications Advisory Committee and the relationship of other committees to the Publications Advisory Committee.

5. Joint NARST/NSTA Publication

See separate report submitted by Maureen McMahon to the NARST Board. The Publications Advisory Committee continues to have questions regarding the relationship between our committee and this publication since the Publication Advisory Committee hasn't had the opportunity to be involved with decisions regarding this joint publication.

6. New Committee Members

Charlene Czerniak worked with Cheryl Mason to provide input regarding nomination and selection of new Publication Advisory Committee Members. Steve Gilbert was added as a new member replacing Julie Luft.

7. NARST Monographs

The Publications Advisory Committee worked with Norm Lederman and Marilyn Estes to give a recommendation regarding reprinting of older NARST Monographs (Learning Cycles and Coeducation: Viewpoints from Gender, Race and Ethnic Perspectives). We recommended that these not be reprinted and instead be sold at a discount to dispose of them. All were deemed by the Publications Advisory Committee (as well as the original authors in some cases) as too dated to be worth reprinting. If they cannot be sold in the near future, they could be "given away" to science education departments or libraries (they pay for shipping). Further, we drafted suggestions regarding disposal of older NARST Monographs. One suggestion was to have a declining scale for the price of the book (it gets less expensive every year older), or sell it at a half price after the publication is 5-7 years old. The committee also suggested commissioning some new monographs, but did not suggest specific titles. Finally, we ask whether the Policy Committee needs to review this "policy" of selling monographs at 50% discount after 5-7 years.

8. Procedure Regarding Calls For and Reviews of Special Issues in JRST

A discussion regarding the procedures for calls for and reviews of special issues in JRST was undertaken. First, it was noted that special issues do not take up space for articles that would otherwise be published; this is a common misconception. Committee members agreed that this "procedure" should not tie the hands of the editors or do too much micromanaging. The job of editor is difficult enough, so anything that makes the job harder or makes meeting deadlines harder would be a mistake. Some questioned the difference between a special issue and a monograph.

The committee sought the guidelines from Sharon Lynch and Okee Lee, and the procedures they used are listed below. These procedures were seen by the current Editors to be within the normal scope of JRST operating procedures, and the procedures used give us a guideline for the development of a policy (this will be discussed at our committee meeting at the NARST meeting in New Orleans):

- Policy on the topic - who decides if a topic is worthy of becoming a special issue?
- Policy on formal proposal for special issue - what should it contain? Who does it go to for review and approval? (one person suggested the current editors and associate editors and maybe one board member)
- Policy on guidelines for soliciting manuscripts - any needed?
- Policy on reviewers of special issue proposals- what is the role of current editor? Guidelines for selecting special issue editor? E.g. reviewer selection and number of reviews.
- Policy needed on disposition of manuscripts selected for special issue but not used.
- Policy on disposition of accepted manuscripts for special issue during editor transition.
- JRST Editor role in communication with authors of special issue, e.g. review of rejection letters?
- Policy on review of manuscripts submitted by editor of special issue for that special issue.
- Policy on author revision timeline for special issues.
- Policy on how frequently a special issue occurs (one person suggested no more than once a year)

Special Issue Steps Taken by Sharon Lynch and Okhee Lee

INITIAL STEPS:

Okhee asked Andy Anderson, former editor of JRST, whether he would consider a special issue on language and culture in science education. He was interested in the idea and asked me to submit a proposal formally. I think I invited you at this time. We submitted a formal proposal and Andy approved it (and I don't know what he did to get the approval from JRST).

CALL FOR PAPERS AND SOLICATION OF MANUSCRIPTS

We announced a call for papers for the special issue in JRST. In addition to JRST and NARST list-serves, we personally solicited submissions from scholars, both in science education and general education, whose work involved issues of language and culture. We responded to inquiries during the period of manuscript submissions.

REVIEW PROCESS

We made a list of potential reviewers including regular JRST reviewers and additional reviewers because we anticipated that the volume and specialization area for the issue might tax unduly the regular reviewers. We asked for their reviews based on their areas of expertise. We initially read all submissions and assigned reviewers based upon a match between the topic and the reviewers' expertise. All manuscripts received 2 outside reviews.

SELECTION PROCESS

Based on the pool of 22 manuscripts that were recommended for publication, we selected a small number of manuscripts that represented a range of topics, *issues*, and *authors*. *Six articles were eventually included in the special issue and two of more were included in other issues of JRST. Some were encouraged to resubmit with major revisions.*

There was a substantial policy matter in addressing the commitments to authors made by the MSU outgoing team and the incoming ASU team. There was good documentation on this transition process, if we remember correctly.

A detailed review letter was sent to each author. We tried to be extremely encouraging and polite. The guest editors drafted the review letter, and scrupulously examined by Andy, who played a major role in this process. He often contributed substantively to these review letters. We divided the authors whose work was accepted among us, in order to guide them as they went through the revision process toward publication.

One of the editors of the special issue submitted a co-authored manuscript. This piece was handled entirely by the other special issue editor and Andy, and had a completely blind review, as far as the author/editor was concerned. The manuscript had mixed reviews, so we decided err on the side of fairness and did not use it for the special issue. We think that this was a good decision as it gave other authors exposure. However, certainly if the reviews had been stronger, we would have used it.

After the 6 authors had been notified that their manuscripts had been accepted, pending the revisions provided in the review letters, we waited until they came back in. This seemed to take months and months. It is of concern for a special issue because busy authors of general manuscripts need not adhere tightly to timelines, but for special issue it is important. We might have required a stronger commitment to adhere to revision timelines, had we known better.

9. Contact Wiley Re: Costs of JRST in Year 3

This was not completed by the chair.

Election Committee Report
March, 2002

Chair: Sandra Abell

Members: Lloyd Barrow, Saouma Boujaoude, Angelo Collins, Cathy Loving

Election Results

An election for NARST officers was conducted in January-February, 2002 with the final results:

NARST President-elect:

Andy Anderson

NARST Board of Directors:

Zoubeida Dagher

Gail Richmond

Deborah Smith

Also, NARST put forth 2 nominees for NSTA Research Division Director. Elected was:

Patricia Simmons

Unfinished business

The new Election Committee needs to deal with the following unresolved issues:

- Policy for tie votes in elections (Old procedures manual read as follows: *Election shall be by plurality in serial order. In the event of a tie vote, the decision shall be made by vote of the members present at the Annual Meeting. This procedure will not work.*)
- How to handle the following bylaws statement: *Additional nominations may be made by providing a petition with the signatures of ten (10) members to the Executive Secretary.* Current and past procedures manual did not address this issue.

March 6, 2002

TO: NARST Executive Board

FROM: Sharon Lynch

RE: Spring Report (2002) of International Committee

The International Committee met twice at the 2001 NARST Annual conference, with the following committee members in attendance:

Sharon Lynch, Chair 03 (in attendance)

Members:

1. Chin-Chung Tsai 04 (in attendance)
2. Karen Sullenger 04 (in attendance)
3. Ling Liang 04 (in attendance)
4. Pamela Abder-Fraser 02 (in attendance)
5. Chin-Yen Chang 02 (in attendance)
6. Wolfgang Graeber 02 (absent)
7. Yohisuke Kumano 03 (in attendance)
8. Brian Murfin 03 (absent)
9. Deborah Pomeroy 03 (absent)

The committee welcomed the new members for the upcoming term: Chin-Chung Tsai, Karen Sullenger and Ling Liang along with other interested NARST members who were in attendance.

In addition, the IC discussions held on March 27 NS 28 were enriched by the participation of the following people: Martina Nieswandt, Bruce Waldrip, Sue Dale Tunnicliffe, Lynda Hatch, Peter Hewson, Jonathan Osborne, Ron Bonstetter, Yehudit Judy Dori, Robin Groves, Norman Thomson, Fernando Cajas, Shireen DeSousa.

Action Items:

1. Preconference workshop on International Science Education:

Proposed: The IC Committee revisited the issue of a preconference workshop for NARST members interested in international science education and decided that a "novel format" session held during the 2002 NARST meeting would be more appropriate and convenient for members to attend. We thought that this could be a session like a poster session, held as an "international marketplace or bazaar" for members who wanted to share information about other international science education organizations, for persons who were seeking research partners for international research, or for individuals with related interests. Karen Sullenger and Norman Thomson will organize.

Disposition: Karen Sullenger contacted Sharon Lynch during the summer of 2001 to report that this was proving to be a challenge to organize long-distance, and that the support was not there. Consequently, we agreed that such a workshop would need to be organized during the NARST Annual Meeting when members were present.

2. IC symposium on International Science Teacher Education Policy: Supply, Demand and Teacher Quality:

Proposed: Sharon Lynch will take the lead on this, perhaps along with an ICASE member, Robin Groves. Sharon will draw up a framework for the symposium so as to allow participants to focus on similar issues for comparisons and contrasts. The emphasis is on teacher education policies, globally.

Disposition: The ICASE symposium has been organized:

ICASE/NARST IC Symposium 2002 (Invited Symposium, Sunday April 7th, 2:30P-4:00P)

Chairs: Robin Groves (President ICASE)

Sharon Lynch (Chair, NARST IC), The George Washington University,

Panelists:

Saouma Boujaoude, American University of Beirut, Lebanon
Judy Dori, MIT, discussing Israel
Yoshisuke Kumano, Shizuoka University, Japan
Ling Liang, La Salle University (Philadelphia, PA), discussing , People's Republic of China
Martina Nieswandt, University of Toronto, discussing Germany
Peter Okebukola, National Universities Commission, Nigeria
Leonie Rennie, Curtin University of Technology, Australia
Norm Thompson, University of Georgia, US, discussing Kenya
Emmett Wright, Kansas State University, USA

Discussants:

Pamela Fraser-Abder, New York University, USA
Angelo Collins, Knowles Science Teaching Foundation, USA

Unfortunately, Robin Groves and Judy Dori will not be attending the NARST Annual meeting this year and have recently informed Sharon Lynch that they will not be able to participate in the symposium.

3. Invited ESERA Symposium for the 2002 NARST Annual Meeting:

Proposed: The third IC sponsored symposium could be an ESERA symposium. Jonathan Osborne will issue the invitation. This seemed like a reasonable way to begin links and exchanges with groups with similar scholarly interests.

Disposition: Jonathan followed through with the invitation, but ESERA regretfully declined to participate.

4. NARST Website Link for NARST members interested in international science education issues.

Proposed: Karen Sullenger volunteered to organize a link on the new NARST Website. Sharon Lynch agreed to contact the appropriate Board members including the Publications Committee and David Zandvliet.

Disposition: The link for the new website was approved by the Publications Committee. Karen and David exchanged some emails concerning this and a link was provided on the new NARST website but it has not yet been populated. Cheryl Mason suggested waiting until the April, 2002 Annual Meeting for discussions between David and Karen, with the intention of structuring the link in the upcoming year.

5. Interactions between the Society of Japan Science Teaching and NARST.

Proposed: The representative from SJST circulated a letter from SJST requesting interactions between the Society of Japan Science Teaching and NARST.

Disposition: The letter was given to NARST past-president Sandi Abell. At that time, NARST had no policies and procedures dealing with the request. At the fall 2002 board meeting, Sharon Lynch provided an initial report on the various types of affiliations that similar organizations might have. Sandi Abell has drafted policies and procedures covering this issue in order to respond to this request. Sandi will present them to the Board for discussion at the April 2002 Board meeting.

Respectfully submitted,

Sharon Lynch, Chair
International Committee

Board Report from JRST Best Paper Award Committee

Chair: Jonathan Osborne (UK)

Committee Members:

Anil Banerjee, Marcia Fetters, Dee Goldston, Helene Sørensen (Denmark), Martha Dreuth-Fewell, Douglas Huffman, Carole Mitchner, Chris Ohana, Julie Bianchini, Juanita Jo Matkins, Renee Schwartz, Edith Gummer, Theresa Greenfield, Bradford F Lewis, Sherry Southerland, Danielle Ford, William Newman, Deb Smith, Maria Pilar Jimenez Aleixandre (Spain), Anita Zohar.

The JRST award committee has the responsibility for reviewing and selecting the best article in volume 38 of the Journal for Research in Science Teaching. The committee completed its work on March 2 and I am pleased to announce that the clear winners of the award are:

Andrew Gilbert and Randy Yerrick for their paper

'Same School, Separate Worlds: A Sociocultural Study of Identity, Resistance and Negotiation in a Rural, Lower Track Science Classroom. 38, 5, 574-598

The work is undertaken by assigning each member of the committee to review all the articles from 3 volumes according to agreed criteria. Each issue is read by 4 or 5 people and reviewed. These reviews are submitted to me by the middle of January. Problems emerged this year because one of the members of the committee was overseas and did not get her last issue till quite late. From this process one article is selected as the top rated article in each issue and all committee members were then asked to review these articles and submit their rankings by the end of February. Communication about reviews took place totally electronically which is normally reliable but two members of the committee claimed not to have received the second round shortlist. 14 members of the committee participated in the second round of the review.

Some indication of the diversity of the view amongst the committee can be seen from the statistics for the ranking. Every paper was allocated the lowest ranking of 10 by at least one member of the committee. Every paper, bar one, was also allocated the highest ranking of 1 by at least one member of the committee. The winning paper had a mean ranking of 4.1 whilst the lowest ranked paper had a mean ranking of 7.0.

At its meeting this year, the committee will give some consideration to the criteria used for evaluating the papers in the light of comments last year about duplication of some of the criteria.

I would like to acknowledge the hard work of all the committee members, in particular those retiring this year – Julie Bianchini, Bradford Lewis, Juanita Jo Matkins and Sherry Southerland and look forward to working with next year's committee.

OUTSTANDING PAPER AWARD

Fifty-one papers were nominated for the *NARST Outstanding Paper Award, 2001*. Of those nominated, 35 authors sent electronic versions of their papers. Each reviewer received 10 or fewer papers for the first round of review. Each reviewer received 16 or fewer papers for the first round of review. The scores were tallied and 12 papers were included in the second round of reviews. Each reviewer received 5 or fewer different papers for the second review. The final round of review had three papers and was completed by February 15, 2002. This date was later than recommended by the NARST Procedures because the committee chair was unavailable to complete the final tally until early February. The committee members and chair nominated author(s) from diverse research areas and interest for representation from all groups.

The following paper was selected as the Outstanding Paper for the NARST 2001 conference.

Using science writing heuristic to enhance learning outcomes from laboratory activities in seventh grade science: Quantitative and qualitative aspects.

Carolyn Keys, University of Georgia
Eun-Mi Yang, Iowa State University
Brian Hand, Iowa State University
Liesl Hohenshell, Iowa State University

Submitted

Kate Scantlebury

March 5, 2002

Report: Spring 2002 Committee for the Distinguished Contributions to Science Education Through Research Award

I reported at the Fall Board meeting that the following scholars had been nominated for the NARST *Distinguished Contributions to Science Education Through Research Award*.

Nominee	Year Of Original Nomination
Yager, Bob	1998
Howe, Ann	1999
Anderson, Ron	2001
Champagne, Audrey	2001
Fraser, Barry	2001
Gabel, Dorothy	2001
Ogunniyi, Meshach	2001
Yore, Larry	2002
Zoller, Uri	2002

After the meeting I distributed the following schedule to the committee members:

- January 2, 2002: send to me a brief evaluative comment on each nominee.
- January 4, 2002: I will forward all evaluative comments to the committee so that we can all see what each of us has had to say.
- Between Jan 4 and Jan 16, feel free to comment on the nominees with DCA committee members via email. But be sure to address your comments to ALL committee members. You can do this by making your own distribution list of committee members or by sending your comments to me and I will redistribute them.
- January 16, 2002: Without ranking nominees, send me your top five.
- January 18, 2002: I will send back to you the names of the five nominees who appeared on the most times in our committee members' lists of top-5.
- Between Jan 18 and Jan 30, if one of your own top-5 did not make the top-5 I have circulated, please feel free to make an argument for including this person- we'll call it a "write in" finalist.
- January 30, 2002: Send me the top-5 in ranked order - please consider any "write in" finalists that any DCA committee member has supported.
- February 1, 2002: I will send back to you the vote counts for all nominees. It will be in this form: nominee's name: 1,2,2,2,3,5; where the "1,2,2,2,3,5" refer to the ranks given by the various committee members. I will list the nominees

in rank order according by lowest point total (i.e., simple sum of the rank number; e.g., 1+2+2+2+3+5= 15).

- February 8, 2002: By this date I want you to confirm your rankings or change your rankings. Also during this time, again feel free to advocate for your rank top person.
- February 11, 2002: I will send the top 3 nominees as determined by lowest point total.
- February 18, 2002: Send me your rank order list of the top 3 nominees.
- February 20, 2002: I will send the top 3 nominees as determined by LATEST tally of points.

The committee was also reminded of the criteria upon which the award competition is to be judged:

- a) Made a CONTINUING CONTRIBUTION to science education through research;
- b) Provided NOTABLE LEADERSHIP in science education through research; and
- c) Had SUBSTANTIAL IMPACT on science education through research.

The procedure to reduce the number of candidates yielded the following result. The right column holds the number of times a candidate appeared on committee member's list of five finalists. With a seven-member committee there were 35 opportunities to appear on a list.

Champagne, Audrey	6
Gabel, Dorothy	6
Fraser, Barry	5
Ogunniyi, Meshach	5
Yager, Bob	5
Anderson, Ron	3
Howe, Ann	3
Yore, Larry	2
Zoller, Uri	0
	35

Based on this list, Champagne, Gabel, Fraser, Ogunniyi and Yager were moved forward as the five semi-finalists.

At this point, the committee ran into a problem. Our agreed upon procedure was to rank to the five semi-finalists and then move forward the three highest ranking scholars. The ranking process gave the following result.

Champagne, Audrey	3	2	1	4	2	2	3	17
Gabel, Dorothy	4	3	5	2	1	1	4	20
Fraser, Barry	1	4	2	3	5	3	5	23
Ogunniyi, Meshach	2	5	3	5	3	4	2	24
Yager, Bob	5	1	4	1	4	5	1	25

At first glance, Champagne, Gabel and Fraser appeared clearly as the top three. However, we encountered the disturbing situation that the lowest ranked semi-finalist also received the most #1 ranks. This anomaly actually stimulated a new round of discussion about the criteria we were using for this process. Although interesting, that discussion did not provide a resolution. Being more inclined to err on the conservative side if error was inevitable, we added an additional round. The committee decided to put forward lists of top three scholars, yielding the following result:

Champagne, Audrey	2	2	1			2	2	9
Gabel, Dorothy	3	3		1	1	1		9
Yager, Bob		1	3	2	2		1	9
Fraser, Barry	1		2	3	3	3	3	15

At this point we agreed that Champagne, Gabel and Yager were to be our finalists. The committee then ranked only these three with the following results:

Champagne, Audrey	1	2	1	1	3	2	2	12
Yager, Bob	3	1	2	2	1	3	1	13
Gabel, Dorothy	2	3	3	3	2	1	3	17

At that point, I wrote to the committee that, "only one vote separates Champaign and Yager. Gabel only received one first-place vote. Since that committee member ranked Champagne second and Yager third, I think it safe to assume that a further round of voting without Gable would not change the outcome—presumably that committee member would shift his/her first place vote for Gabel to Champagne, which would only increase Champagne's lead. Thus, I am prepared to recommend Champaign to the NARST Board as the 2002 Distinguished Contributions to Science Education Through Research Award recipient. Would everyone please send me your concurrence?"

Subsequently, I submitted Champagne's name as the winner with the following award inscription as edited by Sandi Abell.

Dr. Audrey B. Champagne is an outstanding researcher and science educator who has been at the cutting edge of science education research throughout her career. In the early 1970s, she was immersed in research and development related to individualized instruction in science education, helping to develop commercial programs for schools. Her research directly fed into the improvement of the materials and in-service programs at that time. Dr. Champagne was bridging the theory/practice gap long before we read about it in our journals. As Director of the AAAS Project on Liberal Education and the

Sciences, Dr. Champagne concurrently published a landmark volume on liberal education and the sciences. Her contributions are also evident in the articulation of the National Science Education Standards and her leadership regarding TIMSS and NAEP. Her influence has been widespread on national and international levels. Her contributions over a lifetime of professional achievements, and her substantial leadership in science education through research, demonstrate the impact she has had on science education. In summary, Dr. Champagne is a worthy recipient of this prestigious award for a life-time accomplishment in science education research.

Closing Remarks and Recommendations

There is no question but that this was a difficult process that became increasingly more difficult as we narrowed the field. In the end, I believe that every committee members is satisfied that Audrey Champagne is a worthy recipient; but there are also those who nonetheless feel that the award should have gone to Bob Yager. As one can see from the record of votes, however, that Yager consistently split the group. For next year, I intend to use a recording form based on the three criteria listed above. That will serve one purpose but I doubt it will get us by the issues that split the committee with regard to this candidate.

This year is at least the fourth time that Bob Yager has been considered for this award. Indeed, when I contacted him about his nomination he hesitated to accept. I can understand why. His situation leads me to think that NARST should consider capping the number of consecutive years a person could be considered for this award.

Another issue is the threshold of 20 years beyond one's doctorate. A "distinguished career" award implies for many that the recipient is near or at the end of a career. However, we have in the past and we had this year nominations of scholars who are not near – let alone at – the end of a career. This raises the possibility that someone could be nominated relatively early and then either languishes on the list never winning or eventually wins almost on a sympathy vote. I would thus like the Board to consider two recommendations.

Recommendation One:

Raise the threshold of eligibility to 25 or 30 years.

Recommendation Two:

Limit the number of consecutive years that a person can be considered for the award.

Bill Cobern

Chair, Distinguished Contributions to Science Education Through Research Award

Committee

March 14, 2002

**Early Career Research Award
NARST Annual Meeting Board Report
April 7-10, 2002**

Submitted by: J. Randy McGinnis, Chair, 2004 (jm250@umail.umd.edu)

Committee Membership:

Valerie Akerson, 2002 (vakerson@indiana.edu)
George Bodner, 2002 (gmbodner@purdue.edu)
Kathy Frame, 2003 (kframe@bio.org)
Barbara Crawford, 2003 (bac21@psu.edu)
Jennifer Snyder, 2004, (snyderj@umkc.edu)
Dana Zeidler, 2004, (Zeidler@Tempest.Coedu.Usf.Edu)
Ex-officio: **Norman G. Lederman** (ledermann@iit.edu)

I. Committee Charges

The Early Career Research Award Committee is responsible for identifying a member of NARST whose research in the five years immediately following receipt of the doctorate is worthy of recognition by the Association.

II. Summary of Activities and Accomplishments

1. The committee received five nomination packets for this year's award consideration due November 16, 2001. All applications were checked for and were in compliance with the award criteria before they were sent out to the committee members for review. Three of the nominees were employed in international institutions of higher education. Two of the nominees were employed in institutions of higher education in the USA.
2. The assessors (the five members of the committee) were each sent complete sets of the nominees' award materials along with the revised scoring sheet.
3. Each assessor worked independently to score and rank the five nominees. Completed scoring sheets for each nominee were sent to the committee chair in early January, 2002 for tally.
4. The chair of the committee assembled the committee results (by ranking) into one pooled table (with assessors and nominees masked for anonymity).
5. This table was sent electronically to the committee members for inspection and confirmation of the top-ranked award candidate who had emerged (based on the lowest ranking pooled score and supported by the greatest number of assessor #1 rankings).
6. Upon committee consensus agreement of the top ranked masked candidate the chair revealed the top rated candidate's name to the committee with the request that the information be held confidential until the award's presentation (Dr. Allan Gordon Harrison, Central Queensland University—nominated by Dr. David Treagust, Curtin University of Technology). [Note. One senior committee member protested the selection of only the top rated candidate for award recognition. Instead, he advocated for award recognition of the top *two* rated individuals based on his belief that the scoring sheet did not justify decisions of this magnitude for awards that sought to differentiate among an elite, high performing group of nominees].
7. In late January, the chair sent the committee's consensus decision to the NARST president along with the inscription for the award recipient's plaque.
8. The committee chair attempted to contact the identified award recipient by telephone but was unsuccessful (the recipient was away from home for an unspecified length of time). Instead, the chair sent him an email message that informed him of his award selection. In addition, the NARST president was supplied his mailing address to send him an official congratulations letter.
9. The committee chair drafted and sent out individual letters to the other four nominees for this year's award with news of their status. Appreciation was extended to the nominees for participation in this year's NARST Early Career Research Award program. In addition they were all commended for their strong research record in science education

research since receipt of the doctoral degree. A template of the letter is attached for board inspection.

III. Recommendations

1. To carry out the charges of the committee.
2. To review charges and procedures in committee at the 2002 NARST annual meeting in New Orleans.

Template of the Letter Sent to the Early Career Research Award Non-Recipients

[Date]

[Nominee's name and address]

Dear []:

Thank you for allowing your nomination for the NARST Early Career Research Award. The NARST Early Career Research Award Committee has completed its review of all submissions. We regret to inform you that you were not selected this year for award recognition. All the nominees for this award were extremely distinguished, but the committee was able to identify a top ranked nominee as determined by the pooled rankings of the Early Career Research Award scoring instrument.

On behalf of the NARST Early Career Research Award Committee, I want to commend you for your significant achievements to date and to encourage you to continue such important scholarship. And once again, thank you being a candidate for NARST award recognition.

Sincerely,

J. Randy McGinnis,
Chair, NARST Early Career Research Award Committee

cc: , NARST President
 , NARST President-Elect
 , NARST Immediate Past-President

NARST April 2002 Board Meeting

Report from NARST Outstanding Doctoral Research Award Committee

This award category attracted 21 submissions in 2001. Five countries were represented, and from those names which were clearly male or female, I estimate about two-thirds of the submissions were from females.

The events of September 11 were a significant factor, as several submissions were "in the mail" at this time, aiming for the deadline of September 15. Consequently, I delayed sending the abstracts to committee members for nearly three weeks, and even then, there was a late arrival (which had been sent within the time line) which I sent separately. This process delayed rankings. To save some time, each member rated at least 16 abstracts, and the ratings were combined in several ways to arrive at the three finalists, whose full dissertations were rated by all committee members. The finalists were Dr Lori Kurth, Dr Margaret Doty, and the eventual recipient, Dr Mark Girod, who carried out her research at Michigan State University under his committee directed by Dr David Wong.

Usually, the committee reviews its procedures at the annual meeting in New Orleans to reflect on the judging process and recommend any changes. This completes my three year assignment as Chair of this committee, and I will hand over to the new Chair at the NARST meeting. Presumably the new Chair will also wish to have input from the experienced committee members in reviewing the process.

This committee has functioned exceptionally well, and I have been lucky to have some exceptionally thoughtful and insightful people on the committee. I thank them all for their good work.

Léonie Rennie, Committee Chair

Outstanding Master's Research Award Committee
Annual Report
2001-2002

Process: As described in the by-laws, the process proceeded accordingly. The Committee had no recommendations to change the process at the time of this report. On the contrary, several members commented about the 'smooth' process. The Committee used the following review criteria:

Significance of Study
Conceptual/Theoretical
Research Approach Conclusions
Craftsmanship/Communication
Creativity

Six theses were submitted and no research papers were received. Three theses were semi-finalists and one was selected for the award.

Award Recipient:

Laura Elizabeth Slocum who who was nominated by her mentor Marcy
~~Townsend~~. *Townsend*

Evaluation of Physical Chemistry On-Line Modules
Ball State University
Muncie, IN
June 2001

NARST- Equity Committee Report- March 10th 2002
Alberto J. Rodriguez, Chair

This has been a productive and successful year in terms of accomplishing several of our goals. Even though progress has been slow, the attached summary clearly indicates that positive change is possible in NARST when close monitoring of equity related issues is carried out with perseverance and with a strong desire to enact (not just talk about) equity principles.

I'll start by giving you an update on the status of motions that were previously passed about year and half ago, This is followed by an update of the most recently introduced motions by the Equity Committee. Finally, I present highlights of key issues discussed during the Fall 2002 meeting along with some suggestions for the next steps toward transformative action.

I. Update on the motions introduced by the Equity Committee during the Fall 2000 Meeting

Motion Introduced at Fall Meeting 2000	Decision/ Meeting Date	Action/ Person Responsible	Status at Fall Meeting 2001	New Action/Person Responsible
#6 . That gender, ethnic background, areas of research, professional rank, and other areas be considered when appointing members to committees	Passed unanimously October 14, 2000.	Abell charged Haury (former Secretary) to revise membership form so that members can state interest in various committees	Nothing was done. We are assuming that the wording of the motion will be incorporated into the Procedures Manual.	I was now asked to look at the form and forward suggestion to McGinnis—the new Chair of the Membership Committee—who will in turn forward it to the new Secretary.
Motion Introduced at Fall Meeting	Decision/ Meeting Date	Action/ Person Responsible	Status at Fall Meeting 2001	New Action/Person Responsible

<p>2000</p>	<p>#8. . . That criteria for awards be revised for consistency and that creativity be considered as a category.</p>	<p>Motion was withdrawn and committees were charged to consider suggestions. October 14, 2000.</p>	<p>D. Treagust charged Policy Ad. Comm. To review awards procedures to consider issues of consistency and creativity</p> <p>Board charged Policy Ad. Comm. To examine award criteria for consistency and have criteria updated by Spring Board meeting (2001).</p>	<p>There was no report given on this charge at the spring mtg.</p> <p>Abell—the new Chair of the Policy Ad. Comm.—charged all Chairs to submit changes to her by June 15 (President's Report March 2001).</p>	<p>The good news is that almost all award committees finally responded, and according to Abell, the Policy Committee is close to completing this. We look forward to seeing these changes incorporated in the Policy Manual by the next meeting. The only committee that has not made revisions is the Distinguish Award Comm. Mason— incoming President— offered to work with Cobern—the new Award Chair—on reviewing guidelines for consistency. We look forward to hearing about this.</p>
<p>Motion Introduced at Fall Meeting 2000</p>	<p>#11. . . That a revised version of the NARST Procedures Manual be</p>	<p>Passed unanimously October 14, 2000.</p>	<p>David Treagust—former President & Chair of Policy</p>	<p>Status at Fall Meeting 2001</p>	<p>We look forward to hearing about the status of the revised manual and to</p>
<p>Motion</p>	<p>Decision/ Meeting Date</p>	<p>Action/ Person Responsible</p>	<p>Status at Fall Meeting 2001</p>	<p>New Action/Person Responsible</p>	<p>We look forward to hearing about the status of the revised manual and to</p>

posted permanently on the NARST web page		Committee	works continues on the revised manual	seeing it posted on the web soon.
<p>#11 (part b) That at least twice a year a note be posted on the NARST Newsletter to remind members to become familiar with the submission and selection process of the various awards, as well as with policies guiding the organization.</p>	<p>Motion was withdrawn and Membership committee given charge. October 14, 2000.</p>	<p>Membership Committee was to consider ways to keep membership informed and report back to Board at spring meeting.</p>	<p>No report was given on this charge by the Membership Committee at the Spring meeting.</p>	<p>Abell charged Czerniakto send deadlines for inclusion in the Policy manual. Tillotson—the new Secretary-- was charged to investigate whether NARST mails newsletter bulk or first class.</p>

II. Update on the motions introduced by the Equity Committee during the Fall 2001 Meeting

A. Electronic Submissions

1. Whereas the last NARST newsletter was sent late; and whereas, the call for proposal may have reached some international members past the due date, be it resolved that the NARST Newsletter (with the call for proposals) be sent at least ONE month before its printed date.
2. Whereas some members are concerned that some international members may not have easy access to the internet; whereas, some members may be able to only send printed proposals; and whereas, some of these proposals may get to the US at a later date due to delays in the mail system, be it resolved that the following policy be included in the Procedures Manual:
 -

- a. The submission of printed proposals will always be accepted by NARST.
- b. International members will always be afforded some flexibility in the handling of their (printed) proposal submission by focusing on when the proposal was submitted (postage date) and not on when the proposal was received.
- c. International members who submit printed proposals must also submit an electronic copy on a disc so that conference organizers could easily transfer this copy to their data base.

Consensus was reached without voting on the motion.

B. Board Minutes

Whereas access to information, representation, fairness, and voice are the foundations of equity, be it resolved that the minutes for each Board meeting be posted on the NARST's web page one month after they are approved by the Board.

Motion passed 12-0

III. Other Important Highlights

1. At the last meeting, we agreed on a policy for the removal of board and committee members who are not carrying out their duties. This is particularly a problem when, for example, NARST or JRST paper award committee members are not reviewing their assigned set of papers. This in turn creates a skewing of the final scores that end up diluting the significance of the award and has obvious equity implications. The new policy is a very important step in making NARST a more efficient organization. We all get more busy than we expect at one time or another. This policy will encourage members who volunteered to donate some of their time to NARST—and who are not longer able to do so-to move over and allow others to carry out their important jobs.
2. About a year ago, the Board voted to increase the membership fees. Only former Board Member, Patricia Simmons, and I voted against this motion because we thought it was premature to make such a move without enough information. Now, it seems that NARST's has a large surplus (about \$55,000+), and I would like to see some that

money being used to directly benefit the membership. I agree that having a large nest egg set aside for emergencies is a good idea. However, we could allocate some of the surplus or at least some of the interest generated to either: a. reduce the membership fees; b. reduce the increasing registration fee; or c. provide travel support to graduate students, teachers, and international members through a travel grant. What do you think about these ideas? What suggestions do you have?

3. At the last Board spring meeting, we discussed the procedure for nominating Board members and NARST Presidents as you suggested. I emphasized the importance of following the already established policy of open-nominations in the Policy Manual. There was consensus on enacting this policy. Unfortunately, we still do not have the minutes for the Board Spring Meeting of 2001. In any case, our new Executive Secretary, John Tillotson, has been submitting the Board minutes in timely manner.
4. I have tried unsuccessfully several times now to have our annual meeting be held in a non-traditional urban setting. In spite of some interest by several Board members to have our annual meeting in places such as Albuquerque, Tijuana, Mexico, San Antonio, Austin and so on, most members feel that we should always hold the conference at the same site with either AERA or NSTA. What do you think? We are now a 1000+ members organization. I think we could hold our own and pick a more non-traditional site once in a while. Let me know your opinion.

New Motion to be Discussed at the Spring 2002 Meeting

- Whereas the NARST budget has a surplus of over \$50,000.00, and whereas the increasing costs of attending the annual meetings—along with the increased NARST membership fees—may represent a financial hardship to graduate students, teachers, international members and new assistant professors be it resolved that:
- a. The Chairs of the Membership and Equity Committees develop—with the support of their respective committee members—guidelines for the establishment of a travel grant for graduate students, international members, teachers, and/or new assistant professors.
 - b. Not less than \$10,000 be set aside from the NARST budget to support this endeavor next year.
 - c. The Chairs of the Equity and Membership Committees—in consultation with the Chair of the Financial Advisory Committee—include recommendations in their report for ways to sustain the travel grant on an on-going basis (for example, use interest from investments, seek contributions from foundations, etc.).

d. The Chairs of the Equity and Membership Committees submit a report with recommendations not later than the next Fall Board meeting.

Finally, I'd to thank the outgoing Equity Committee Members, Kathleen Davis, Hedy Moscovici, and Mark Volkmann for their contributions to NARST and their support. I wish them much success, and I hope that they will continue to carry the Equity Flag as they volunteer to work in other committees.

Well, friends, I hope you find this report useful. As always, I depend on your feedback to ensure that we focus on the issues that most matter to you. Please send me your comments and/or suggestions by March 16, so that I can revise/incorporate them in a formal report to the Board.

Yours Sincerely,

Alberto J. Rodriguez.-

Chair, Equity Committee

Science Education

Department of Curriculum & Instruction, MSC 3CUR

New Mexico State University

P.O. Box 30001

Las Cruces, New Mexico. USA

88003

Telephone: 505 - 646 - 1067 (office)

Fax: 505 - 646 - 5436

e-mail: albertor@nmsu.edu

Web Page: <http://education.nmsu.edu/c-i/rodriguez>

Pathways Project Web Page: <http://education.nmsu.edu/pathways>

**Membership Committee
NARST Annual Meeting Board Report
April 7-10, 2002**

Submitted by: J. Randy McGinnis, Chair, 2004, (jm250@umail.umd.edu)

Committee Membership:

Peter Rubba, 2002 (par4@psu.edu)
Joe Engemann, 2002 (engemann@ed.brocku.ca)
Laura Barden-Gabbei, 2003 (lm-barden@wiu.edu)
Jazlin Ebenezer, 2004 (jebenezer@wayne.edu)
Holly Priestly, 2004 (hip@psu.edu)
Ex-officio: Norman G. Lederman (Ledermann@iit.edu)

I. Committee Charges

The Membership Committee recruits members to NARST and ensures that the organization is responsive to the on-going needs of the membership.

II. Summary of Activities and Accomplishments

1. The chair of the committee drafted detailed information on the Membership Committee for the NARST Statement of Operating Procedures. This information was sent to the NARST past-president for inclusion in that document.
2. The committee worked with the annual program coordinator and our NARST president-elect to schedule and offer three Membership Committee sponsored sessions at the association's annual meeting:
 1. Evening of the first full day of the conference (one hour):
"New Researcher's Welcome and Orientation"
Host: NARST Membership Committee
Speaker: William Holiday, University of Maryland, College Park
Presider: J. Randy McGinnis, Chair, NARST Membership Committee, University of Maryland, College Park
 2. Evening, First Day of the conference (one hour):
"Mentor/Mentee Orientation"
Host: NARST Membership Committee
 3. During the conference (one hour session):
"Transition from Graduate Student to Junior Faculty"
Presider: Joseph F. Engemann, Brock University (NARST Membership Committee Member)
Moderator: Carol Brandt, University of New Mexico
Panelists: Nedra J. Davis, Kim Bilica, April Luehmann, Donna Ross, Hedy Moscovici, James T. McDonald

Discussant: Jeff Bloom
3. During the fall 2002, the chair of the Membership committee collaborated with the NARST president and president-elect on strategies to advertise proactively the meeting. A strategy selected during the unsettled times we faced was for the chair of the membership committee to post informative messages to the NARSTNET concerning travel to the conference's venue, the quality of the conference hotel, and Membership Committee sponsored sessions at the annual meeting. Two messages were posted to the membership. The first posted message was a first person travel narrative drafted by the chair of the Membership Committee (and edited by the

NARST president and president-elect) on travel to and from the conference hotel based on the fall NARST board meeting experience. The second posted message advertised the website address of the draft conference program and identified the Membership Committee's three sponsored sessions. Feedback on the two postings received by the chair of the committee from responding association members was overwhelmingly positive.

4. Also during the fall, Holly Priestly (a long time supporter and committee member of the Membership Committee) investigated independently options for obtaining free large conference badge holders for the annual convention. Ultimately, the NARST leadership declined what Holly was offered due to the prominent placement of NSTA's and HRW's logos on the badge holders.
5. In Mid-February, the chair of the committee sent out the first call for the NARST mentor/mentee program that meets in a special session at the annual convention. A copy of the call is attached for board inspection. Special recognition goes to committee members Laura Barden-Gabbei and Jazlin Ebenezer for pairing interested participants. Additional postings will be posted before the annual meeting.
6. In February, the chair of the Membership committee acted in response the NARST president's charge to the committee to review the current NARST membership classes and suggest revision for consideration by the NARST Advising and Policy Committee. A report was crafted that incorporated a review of the membership classes of three other science education associations, a review of the NARST Bylaws, and a review of the NARST membership application. The report was sent electronically to the chair of the that committee for distribution and discussion.

III. Recommendations

1. To carry out the charges of the committee.
2. To review charges and procedures in committee at the 2002 NARST annual meeting in New Orleans

Appendix: Posted Call for Mentor/Mentee Program

Dear Fellow NARST Members:

Are you a new member to the NARST community? If you would like a mentor please sign up as a mentee.

Are you an experienced member in the NARST community? If you would like a mentee please sign up as a mentor.

Mentors and mentees get together in a special session at the NARST annual conference.

This year the Mentor/Mentee Orientation session is scheduled for Sunday, April 7th, 6:15pm to 7:15pm, Ballroom X. The NARST Membership Committee hosts the session.

If you desire to participate in the NARST Mentor/Mentee Program, please mark all appropriate responses in the survey below with an X and send it electronically to Dr. Laura M. Barden-Gabbei [lmbarden@wiu.edu] before MARCH 18, 2002. Laura requests that you put "NARST" in your email subject line. Before the NARST annual conference in April, mentor/mentee pairing information will be sent electronically to those who have responded.

Mentor/Mentee Questionnaire

(1) I would like to participate as a

___ Mentor ___ Mentee

(2) I would prefer to work with someone in ONE of the following research areas:

- ___ 1. Learning: Students' Conceptions and Conceptual Change
- ___ 2. Learning: Classroom Contexts and Learner Characteristics
- ___ 3. Teaching
- ___ 4. Teacher Education
 - ___ a. Preservice
 - ___ b. Inservice
- ___ 5. Curriculum, Evaluation, and Assessment
- ___ 6. Cultural, Social, and Gender Issues
- ___ 7. Educational Technology
- ___ 8. History, Philosophy, and Epistemology
- ___ 9. Informal Learning
- ___ 10. College Science Teaching

(3) Optional. If you have any additional special requests to consider in matching mentor/mentee pairs, please describe: _____

In addition, we invite established mentor/mentee pairs from previous NARST meetings to attend this year's session. We welcome some words at the session from those who have benefited from the NARST mentor/mentee program. If you are interested in attending the session (and if you desire to share some thoughts with the audience), please send an email to Dr. J. Randy McGinnis [jm250@umail.umd.edu], Chair of the Membership Committee so that we can include you in this year's mentor/mentee session's program.

Looking forward to seeing you in New Orleans,

--J. Randy McGinnis
Chair, NARST Membership Committee

Membership Committee Charge:

The Membership Committee recruits members to NARST and ensures that the organization is responsive to the on-going needs of the membership.

Procedures:

- a. Compile data, communicate results, and suggest recommendations relating to the business of the association based on survey of the membership.
7. Recommend or sponsor sessions at the annual meeting.
8. Coordinate a mentor/mentee program.
9. Publicize the association and the annual conference.

Report from NSTA representative to NARST Board of Directors
Maureen M. McMahon, Submitted: 3/1/02

Dear NARST Board Members:

NSTA has had a year of growth that included the NSTA Board prioritizing goals for the NSTA for the next 3-5 years. The goals include: 1) increase the total NSTA membership, 2) increase percentage of urban teachers of science engaged, 3) improve the quality of teaching of experienced teachers, 4) improve perception of science education, 5) improve the quality of teaching of novice teachers, 6) assist school administrators in conducting a total science program needs assessment, 7) facilitate expanded networking about science educators, 8) improve the quality of professional development providers, and 9) build leadership cadre among science educators.

Most importantly for NARST, however, is the movement we have made toward successfully realizing the first joint NARST-NSTA issue of PEERs Matter (Practical Experience and Educational Research Matter). Frank Crawley (NARST coordinator of Research) and I (NSTA director of Research) have jointly worked with our respective research committees from the two organizations to craft this first issue on assessment. The call for submissions went out in NSTA Reports! and over the NARST listserv in October with a deadline set for December 15, 2001. We received 31 submissions. The 250 word submitted abstracts are currently out for review with our research committee members serving as the editorial review board members. We are working with our committees and the NSTA Press and look forward to a summer 2002 web-based publication of the first issue of PEERs Matter. The print-based publication, organization responsibilities and royalties will be on the discussion agenda for the next few months.

Items for Discussion

What role does NARST want to play in the future of PEERs Matter? What responsibilities does the organization want to take on in this joint-venture? How does NARST see its members using PEERs Matter?

Respectfully submitted,

Maureen McMahon
California State University, Long Beach
Department of Science Education
mmcmahon@csulb.edu

**Report
October '01**

Ad Hoc Committee on Environmental Science Education

Prepared by:
Dr. Michaela Zint, University of Michigan

The Ad Hoc Committee on Environmental Science Education (ESE) first met at the 2000 NARST Annual Meeting and met again during most recent 2001 Annual Meeting [minutes of both meetings are attached]. We request to continue to exist as a group to provide collaboration and networking opportunities for NARST members with ESE interests and to help attract new members who have research and teaching interests in ESE.

Considering that we have only been in existence for a short period of time, our group has been quite active. In addition to meeting during the NARST Annual Meetings, NARST members interested in ESE have been communicating via a list serv (i.e., NARST-EE@umich.edu) between meetings. The 2000 and 2001 meetings (during the same time as the Special Interest Group meetings) were attended by 17 and 16 individuals, respectively and our entire group currently consists of 53 members who have expressed an interest in ESE and participate on our list serv [NARST-ESE membership list is attached]. Last year, Yvonne Meichtry took the lead in managing our group's call for proposals for a NARST ESE symposium, resulting in 27 submission. Ten of these were presented as part of two symposia led by Yvonne Meichtry and myself during the 2001 Annual Meeting. There were also at least 20 additional ESE focused presentations during this past Annual Meeting. This year I am aware that two ESE symposia have been submitted for the upcoming 2002 Annual Meeting by members of our group, one by Justin Dillon and one by Paul Hart. I am also again expecting many additional individual ESE focused presentations from our members. Our group hopes to meet again during the 2002 Annual Meeting at the same time as the Special Interest Group meetings (as that is what we are aspiring to).

As partly intended by the formation of our group, our ESE activities have managed to bring a number of new members to NARST and brought back past members who had left NARST because it had not met their ESE needs!

So far, there have been no official committee members other than Dr. Krajcik and myself as co-chairs. Instead, any NARST member with an interest in ESE has been invited to participate in our meetings during the Annual Meeting and via our list serv. Given our group's current size, I now believe it may be appropriate to form a committee to guide our future efforts. In light of their unique interest and past contributions, I recommend that *Drs. Yvonne Meichtry, Justin Dillon, Paul Hart, and William Carlson* be asked to serve in this capacity. I also believe it may be time for a new chair and recommend Yvonne Meichtry in light of her commitment to the group. Of course, I would be glad to continue to serve as well as a member of the committee.

One related question that I have is if space can be created for the Special Interest Groups and committees like ours on the NARST web page. We, for example, would like to post our minutes and membership list so that other NARST members and potential new NARST members can learn of our activities.

Any thoughts, suggestions are welcome and please direct any questions, comments, or concerns to me: Michaela Zint, zintmich@umich.edu, Ph (734) 763-6961.

Ad Hoc Committee on Environmental Science Education (ESE)
MINUTES of 2nd Meeting
Tuesday, March 27th, 8:30-10:30pm
NARST Annual Meeting 2001, St. Louis, MO

Organized and Minutes Prepared by:
Michaela Zint, University of Michigan

Sixteen participants attended this official meeting (see end of these minutes).

[Another meeting was mistakenly listed in the program for Monday 7-8:30am and a few individuals attended that meeting for informal discussions. Michaela Zint also noted that the information printed in the conference program on the Committee's membership was incorrect. She has been asked to chair such a committee but currently there is no committee per se - everyone with an interest in ESE is currently considered a member of this group which has been networking via the list serv NARST-EE@umich.edu.]

Michaela Zint began by explaining that the Ad Hoc Committee on ESE came about as a result of an informal conversation with Joe Krajcik in 1999. During that conversation Michaela Zint expressed the need for greater networking opportunities for faculty members with an interest in ESE and Joe Krajcik suggested that NARST could provide such a forum (and thus, possibly increase its membership).

Michaela Zint subsequently posted a message via the narst-1@narst.org, eefac@eelink.net, and env-ed-research@jiscmail.ac.uk list servs to invite those with an interest in ESE to join the group. Sixteen individuals participated in the first meeting last year and many more subsequently joined the NARST-EE@umich.edu list serv. At this time, 54 individuals are members of the list serv, many of which are new NARST members.

Next, Michaela Zint briefly described the past year's activities. In addition to calling for the creation of the NARST-EE@umich.edu list serv, last year's 2000 group decided to develop a call for proposal for an ESE symposium for this year's 2001 conference. Yvonne Meichtry took the lead in developing and disseminating this call to which 27 proposals were submitted. Based on the topics of these proposals, Yvonne Meichtry and Michaela Zint selected 10 proposal for inclusion in two symposia that were submitted to NARST's closest matching strands. Both symposia were accepted and attended by over 20 individuals each:

- ◆ Relations between science education and environmental science education (Strand 8). See http://www.nku.edu/~scienceed/dr_yvonne_meichtry.htm for copy of paper
- ◆ Connections between science education and environmental science education (Strand 5). See <http://www-personal.umich.edu/~zintmich/> for copy of paper

It was also noted that throughout this year's 2001 conference there were at least 20 additional presentations focused on ESE. These presentations were incorporated within a great variety of sessions.

At this time of the meeting, participants described their ESE interests and discussed how NARST could help meet their needs. It was agreed that the group should continue to pursue the establishment of an ESE special interest group within NARST. This decision was based on the observation that the many NARST members interested in this topic will otherwise not be able to have their expectations met by the association (e.g. presentations as part of related vs. unrelated conference sessions, pre-conference workshops and special publications focused on ESE, etc.).

With regard to activities for next year, Yvonne Meichtry and Michaela Zint were encouraged to publish the papers prepared for the two symposia. Both agreed to pursue this along with the panelists who participated in the symposia.

With regard to the 2002 NARST conference specifically, it was decided to again develop symposia on ESE and to follow up on one of last year's suggestions of organizing a pre-conference workshop for graduate students engaged in ESE research.

- ◆ Justin Dillon (justin.dillon@kcl.ac.uk) and Michael Roth (mroth@uvic.ca) agreed to organize a symposium on formal and non/informal ESE
- ◆ Paul Hart (Paul.Hart@uregina.ca) also considered organizing an ESE symposium but wanted to have some time to think about a topic.
- ◆ Uri Zoller (uriz@research.haifa.ac.il) agreed to organize a symposium on assessment of higher-order cognitive skills in ESE.
- ◆ Bill Carlson (wcarlson@psu.edu) agreed to organize a pre-conference workshop with assistance from Ali Sammel (asammel@golden.net) to focus on ESE research targeting graduate students.

Anyone interested participating in these symposia or the workshop is encouraged to contact these individuals. It was also recommended that any individuals interested in submitting an ESE presentation for the next 2002 NARST conference use the group's list serv NARST-EE@umich.edu to identify other individuals with whom to collaborate to submit a multiple paper session.

At this point the group decided to adjourn and continue discussions via the NARST-EE@umich.edu list serv. Members were also encouraged to share information about their interests and publications via this network.

Participants:

Michael	Bower	Lakehead University	gmbower@compuserve.com
Bill	Carlsen	Penn State	wcarlsen@psu.edu
Justin	Dillon	King's College London	justin.dillon@kcl.ac.uk
Paul	Hart	University of Regina	Paul.Hart@uregina.ca
Gail	Luera	University of Michigan-Dearborn	grl@umich.edu
Yvonne	Meichtry	Northern Kentucky University	Yvonne.Meichtry@nku.edu
Kyung-	Noh	Korea National Univ. of Edu.	kinoh@hanmail.net

Ian			
Irene	Teh-Cheong	Curtin University of Technology	tehcheon@ses.curtin.edu.au
Wolff-Michael	Roth	University Victoria	mroth@uvic.ca
Ali	Sammel	University of Western Ontario	asammel@golden.net
Rowena	Scott	Curtin University, Australia	rowena@brunet.bn
Tali	Tal	Technion	rtal@tx.technion.ac.il
Valerie	Talsma	University of Pittsburgh	vtalsma@pitt.edu
David B.	Zandvliet	Simon Fraser University	dbz@sfu.ca
Michaela	Zint	University of Michigan	MichaelaZintmich@umich.edu
Uri	Zoller	Haifa University-Oranim	uriz@research.haifa.ac.il

**Ad Hoc Committee on Environmental Science Education
MINUTES**

Prepared by Michaela Zint
Sunday, April 30th, 8-10pm
NARST Annual Meeting 2000, New Orleans

Organizers:

Michaela Zint, SNR&E, University of Michigan
Joseph S. Krajcik, SOE, University of Michigan

Seventeen participants attended the meeting (see end of these minutes).

Zint began by explaining that this meeting came about as a result of an informal conversation with Krajcik. At this meeting Zint expressed the need for greater networking opportunities with environmental education faculty members and Krajcik suggested that NARST may provide such a forum. The day's ad hoc meeting was set up as a result. Zint also explained that Krajcik was unable to attend due to a scheduling conflict.

Zint suggested the following agenda, approved by participants:

- (1) learn about colleagues' interests with regard to environmental education,
- (2) learn about relevant support networks/groups, and
- (3) suggest potential roles for NARST.

(1) Introductions

Each participant briefly had an opportunity to describe his/her interest in environmental education research, teaching, and service. It was also noted that there were a number of individuals who had expressed an interest in attending meeting but were unable to participate for a variety of reasons, and that informal conversations suggested that many NARST members had an interest in environmental education.

(2) Networks/groups

The following formal ways to network for academicians interested in environmental education were identified:

American Educational Research Association

Ecological and Environmental Education Special Interest Group

<http://www.uwsp.edu/acad/educ/hstmauri/eesig.htm>

Newsletter

<http://www.uwsp.edu/acad/educ/hstmauri/eesigp.htm>

Geographical Association

(<http://www.geography.org.uk/home.htm>)

Environmental Education Working Group

(Info will be available on GA www site in near future)

North American Association for Environmental Education
<http://www.naaee.org/>
Higher Education Commission
Research Commission

eefac@eelink.net (managed by Zint, zintmich@umich.edu)
[This list serv is currently restricted to faculty who teach environmental education methods courses as included in "Environmental Education Undergraduate and Graduate Programs and Faculty in the United States"
<http://www.naaee.org/html/pubintro.htm>]

env-ed-research@mailbase.ac.uk (managed by Alan Reid)
[Info about this list is at <http://www.mailbase.ac.uk/lists/env-ed-research/>]

The following peer reviewed journals that focus on environmental education were also identified:

Australian Journal of Environmental Education (refereed)
[Information will be included in the reconstructed Australian Association for Environmental Education www site in the future, for more information currently contact Annette Gough, aggough@deakin.edu.au]

Canadian Journal of Environmental Education
<http://www.edu.uleth.ca/ciccte/cjee/default.html>

Eingana, journal of the Victorian Association for Environmental Education, Australia
[For more information contact Pam Welsford, vaaee@netspace.net.au]

Environmental Education Research
<http://www.tandf.co.uk/journals/carfax/13504622.html>

Journal of Environmental Education
http://www.heldref.org/html/body_je.html

International Journal of Environmental Education and Information
<http://www.salford.ac.uk/env-res/eei/eei.html>

International Research in Geographical and Environmental Education
<http://www.catchword.co.uk/titles/10382046.htm>

Related journals:

Journal of Experiential Education

Journal of Interpretation (Canada)

Journal of Interpretation (USA)

Journal of Outdoor Education

More are listed at <http://eelink.net/ee-research.html>

(3) NARST's Role

After a brief discussion, participants concluded that it was necessary to pursue the establishment of an environmental science education special interest group within

NARST. This decision was based on the observation that the many NARST members interested in this topic will otherwise not be able to have their expectations met by the association (e.g. presentations as part of related vs. unrelated conference sessions, pre-conference workshops focused on environmental science education, articles in NARST publications). It was also recognized, however, that there should be close ties to other groups within NARST with relevant interests such as the proposed informal science education special interest group.

It was also agreed that proposed special interest group and its associated activities be entitled "environmental science education" vs "environmental education." Environmental education is not equal to environmental advocacy but many misperceive it as such. Adding the term "science" was suggested as a way to help to overcome this credibility issue. However, it was also recognized that environmental education is an interdisciplinary activity that involves the natural and social sciences. There was some concern that by using "environmental science education" the group might be perceived as biased toward the natural sciences. In addition, participants felt that the group's activities should not just focus on sub-urban and rural audiences but also urban audiences (which have traditionally not been the focus of environmental education activities). Finally, the group felt that there was a need to highlight quality environmental education research to enhance the credibility of this discipline within NARST.

The group decided that within the next year it would try to organize a pre-conference workshop and/or symposium at the next NARST conference focusing on research in environmental science education (NOT program development). Carlson and Meichtry respectively, agreed to coordinate these activities. It was also suggested that the group coordinate a special workshop to be held in coordination with AERA in 2002.

At this point the group decided to adjourn and continue discussions via a group email (NARST-EE@umich.edu) which Zint agreed to set up. Zint ended the meeting by thanking participants for attending the meeting and Krajcik for his support.

Organizers:

Michaela Zint
Joseph S. Krajcik

SNR&E, University of Michigan
SOE, University of Michigan

zintmich@umich.edu
krajcik@umich.edu

Participants:

Eleanor Abrams
Ulrich Bosler
Bill Carlsen
Kim Dahl
Justin Dillon
Celia Evans
Kass Hogan
Beth Klein
Yvonne Meichtry
Anneliese Mueller
Dan Shepardson
Tali Tal
Valerie Talsma

University of New Hampshire
IPN Kiel
Cornell University
Teague Middle School
King's College London
University of New Hampshire
Institute of Ecosystem Studies
SUNY Cortland
Northern Kentucky University
University of New Hampshire
Purdue University
University of Michigan
University of Pittsburgh

eleanor.abrams@unh.edu
bosler@ipn.uni-kiel.de
wsc2@cornell.edu
kim_dahl@scps.k12.fl.us
justin.dillon@kcl.ac.uk
celia.evans@unh.edu
hogank@ecostudies.org
kleine@cortland.edu
meichtryy@nku.edu
amueller@cisunix.unh.edu
dshep@purdue.edu
tal@umich.edu
vtalsma@pitt.edu



Starlin D. Weaver
Brian White

Salisbury State University
Univ. of Massachusetts Boston

sdweaver@ssu.edu
brian.white@umb.edu



Current NARST members with an interest in ESE who actively participate:

Eleanor	Abrams	University of New Hampshire	eleanor.abrams@unh.edu
Rita	Bell	Monterey Bay Aquarium	rbell@mbayaq.org
Kathleen K.	Blouch	Capital Area Inst.for Math. & Science	kblouch@mathscience.org
Alec M.	Bodzin	Lehigh University	amb4@lehigh.edu
Ulrich	Bosler	IPN Kiel	bosler@ipn.uni-kiel.de
Michael	Bower	Lakehead University	<u>gmbower@compuserve.com</u>
Bill	Carlsen	Penn State	wcarlsen@psu.edu
Jennifer	Chidsey	Ross School	jlchidsey@hotmail.com
Pauline	Chinn	University of Hawaii	chinn@hawaii.edu
Kim	Dahl	Teague Middle School	kim_dahl@scps.k12.fl.us
Nancy T.	Davis	Florida State University	ntdavis52@yahoo.com
Rachael	Dempsey	Inst. for Science Education, Germany	RCDempsey@aol.com
Justin	Dillon	King's College London	justin.dillon@kcl.ac.uk
Don	Duggan-Haas	Kalamazoo College	haasdona@pilot.msu.edu
Daniel C.	Edelson	Northwestern University	d-edelson@northwestern.edu
Celia	Evans	University of New Hampshire	celia.evans@unh.edu
Marcia	Fetters	University of Toledo	mfetter2@pop3.utoledo.edu
Rosanne W.	Fortner	Ohio State University	fortner.2@osu.edu
Allan	Harrison	Central Queensland University	a.harrison@cqu.edu.au
Paul	Hart	University of Regina	<u>Paul.Hart@uregina.ca</u>
Kass	Hogan	Institute of Ecosystem Studies	hogank@ecostudies.org
Beth	Klein	SUNY Cortland	kleine@cortland.edu
Dave	Klindienst	Pennsylvania State University	dbk3@psu.edu
Joseph S.	Krajcik	University of Michigan	krajcik@umich.edu
Bridget	Lewin	University of California Santa Barbara	lewin@sbceo.org
Gail	Luera	University of Michigan-Dearborn	<u>gri@umich.edu</u>
Ted	May	North Dakota State University	Ted_May@ndsu.nodak.edu
Jim	McDonald	Purdue University	jimmc@purdue.edu
Andrea	McLoughlin	Long Island University	amclough@liu.edu
Yvonne	Meichtry	Northern Kentucky University	meichtry@nku.edu
Anneliese	Mueller	University of New Hampshire	amueller@cisunix.unh.edu
Kyung-lan	Noh	Korea National Univ. of Edu.	<u>kinoh@hanmail.net</u>
Timothy P.	Olsen	University of Wisconsin-Madison	tpolsen@facstaff.wisc.edu
Tony	Olusanya	Lagos State University, Nigeria	oakolusanya@hotmail.com
Wolff-Michael	Roth	University Victoria	<u>mroth@uvic.ca</u>
Troy	Sadler	University of South Florida	tsadler@tempest.coedu.usf.edu
Ali	Sammel	University of Western Ontario	<u>asammel@golden.net</u>
Rowena	Scott	Curtin University, Australia	<u>rowena@brunet.bn</u>
Bonnie	Shapiro	University of Calgary	bshapiro@ucalgary.ca
Dan	Shepardson	Purdue University	dshep@purdue.edu

Lucille (Lucy)	Slinger	University of Wisconsin - La Crosse	slinger.luci@uwlax.edu
Tali	Tal	Technion	rtal@tx.technion.ac.il
Valerie	Talsma	University of Pittsburgh	vtalsma@pitt.edu
Irene	Teh-Cheong	Curtin University of Technology	irenecpa@shbie.ubd.edu.bn
Jeff	Thomas	University of Southern Indiana	jthomas@zebra.net
John	Trowbridge	Southeastern Louisiana University	jtrowbridge@selu.edu
Starlin D.	Weaver	Salisbury State University	sdweaver@ssu.edu
Nicole	Weber	UMASS Boston	weberphin@hotmail.com
Sandra S.	West	Southwest Texas State University	sw04@swt.edu
Brian	White	UMASS Boston	brian.white@umb.edu
David B.	Zandvliet	Simon Fraser University	dbz@sfu.ca
Michaela	Zint	University of Michigan	zintmich@umich.edu
Uri	Zoller	Haifa University-Oranim	uriz@research.haifa.ac.il

Report from Ad Hoc Committee on Practitioner Research
National Association for Research in Science Teaching
March 15, 2002

Co-Chairs:

Deborah Roberts, Montgomery County Public Schools, Maryland
Emily van Zee, Science Teaching Center, University of Maryland College Park
Deborah_Roberts@fc.mcps.k12.md.us ev14@umail.umd.edu

Committee Members:

Mary Bell, Glenn Dale Elementary School, Glenn Dale, MD; Brenda Capobianco, University of Massachusetts, Amherst; Allen Feldman, University of Massachusetts, Amherst; Monica Hartmann, University of Michigan; Chris Horne, Frederick County Public Schools, MD; Elaine Howes, Columbia University; Chin-Tang Liu, Temple University; Jim Minstrell, Talaria, Inc, Connie Nissley, Green Acres School, Md; Kathleen Roth, Michigan State University and LessonLab Inc, Deborah Smith, Michigan State; Maria Varelas, University of Illinois.

I. Summary

The proposal jointly submitted by NSTA and NARST to the Spencer Foundation was funded for two years at \$50,000. Entitled "Fostering Practitioner Research in Science Contexts," this grant provides funding for sessions at NSTA and NARST devoted to practitioner research and summer funding for a teacher to coordinate these activities and to develop a website for practitioner researchers.

Plans underway for the spring meetings include a short course for teacher researchers and a joint NSTA/NARST poster session at the 2002 NSTA meeting in San Diego; a pre-conference workshop, Inquiring into One's Own Teaching Practices, and a novel format session, Collaborative Inquiry about Collecting and Interpreting Data in One's Own Classroom, at the 2002 NARST annual meeting in New Orleans. We are deeply grateful that the association is sponsoring a reception for teacher researchers at the annual meeting. Other practitioner researcher events that will occur on Sunday April 7 include an invited speaker for the Pre-Service Teacher Education Strand 4a, Learning How to Do Research While Learning How to Teach (Carnegie K12 Scholar Deborah Roberts) and a symposium, Quality Criteria for Teacher Education Practitioner Research. In addition, we have begun constructing a website for practitioner researchers.

II Activities at the Spring Meetings

National Science Teachers Association annual meeting, San Diego:

Friday, March 29, 1:00-4:00 p.m., Grand Salon A, Clarion Hotel

Short course: Teacher Research: What Is It? How Do You Do It? Why Bother? (SC-42)

Frank Crawley, East Carolina University, Greenville, N.C.
Tara Parker, J.H. Rose High School, Greenville, N.C.
Deborah Roberts, Oak View Elementary School, Silver Spring, Md.
Dorothy Simpson, Mercer Island High School, Mercer Island, Wash.
Emily van Zee, University of Maryland, College Park
Monica Hartman, Evans Elementary School, Melvindale, Mich.

What are you curious about your students' learning? How might you explore what is working well in your teaching? This course is for preK–12 teachers, graduate students, college faculty, and informal science educators who are interested in inquiring into their own teaching practices. Participants are encouraged to bring data from their own classrooms, including videoclips of instruction, copies of student work, reflective journals to share and discuss in small groups. The session will close with a whole group discussion of issues encountered in this type of research. Participants will receive a notebook with a bibliography of teacher research in science contexts, copies of facilitators' self-studies, and relevant resources.

Saturday, March 30, 9:30-10:30 a.m.:

Poster Session for Teachers Inquiring into Science Learning and Teaching

Deborah Roberts and Emily van Zee, co-facilitators

This session will provide an opportunity to present findings for teachers and teacher educators who are conducting research on their own teaching practices. Presenters will prepare posters that present their research questions, rationale, data sources, methods of analysis, interpretations, and implications for instruction. Presenters also will prepare handouts that summarize their studies. Near the close of the session, the co-chairs will facilitate a whole group discussion of issues raised by this kind of research. The co-chairs also will demonstrate a website under development for teacher researchers in science contexts. We anticipate that many of the presenters will be individuals and groups who have contributed to the website by providing information about their studies and resources they have found useful.

**National Association for Research in Science Teaching annual meeting:
New Orleans:**

Sunday, April 7, 8:30 a.m. – 12:30 p.m. Hyatt Regency Prytania Room
Pre-Conference Workshop Inquiring into One's Own Teaching Practices

Emily van Zee, University of Maryland, College Park; Deborah Roberts, Montgomery County Public Schools; Alison Alevy, Fairland Elementary School, Silver Spring, MD; Dana Dreher, Montgomery County Public Schools, MD; Lisa Gioe-Cordi, District 15, New York; Kathleen Hogan, Calverton School, Huntington, MD; Christopher Horne, Frederick County Public Schools, Maryland; Elaine V. Howes, Teachers College, Columbia; Christine Klein, St. Louis Science Center; Gerald H. Krockover, Purdue

University; Sharon Nichols, East Carolina University; Patricia Roy, Mount Rainier Elementary School

What are you curious about in your classroom? How might you explore those issues? What data sources might be relevant? How might you interpret those data? For what purposes? This workshop is for preK-12 teachers, graduate students, college science faculty, college science education faculty, and informal science educators who are interested in inquiring into their own teaching practices. The purpose of the workshop is to learn and refine ways to interpret data gathered in one's own classroom. The emphasis will be on qualitative studies. Participants will work in small groups with facilitators who have had some experience in researching while teaching. Participants are encouraged to bring data from their own classrooms such as videoclips, copies of student work, reflective journals etc. to share and discuss in the small groups. The workshop will close with a whole group discussion of issues encountered in this type of research. Participants will receive a notebook with a bibliography of practitioner research in science contexts, copies of facilitators' self-studies, and relevant resources.

1.02 Sunday April 7th, 1:00 - 2:00 p.m. Burgundy B, Hyatt Regency

Strand 04: Teacher Education (Pre-service)

Invited Session: Learning How to Do Research While Learning How to Teach

Deborah Roberts, Oak View Elementary School

2.02 Sunday, April 7th, 2:30-4:00 p.m. Burgundy B, Hyatt Regency

Strand 04: Teacher Education (In-service)

Collaborative Inquiry about Collecting and Interpreting Data in One's Own Classroom

Facilitators: Emily van Zee, University of Maryland College Park; Deborah Roberts, Montgomery County Public Schools

A collaborative inquiry is a novel format with the intent to generate as well as disseminate knowledge. This session will build upon a collaborative inquiry at the 2001 NARST annual meeting in St. Louis. In response to a questionnaire, participants identified the following issues that they would like NARST to address for members interested in conducting research on their own teaching practices: guidance in conducting research while teaching, ways to find support such as grants, information about software useful for analyzing data, ethical issues and ways to build a community of teacher researchers. The purpose of the proposed session will be to gather insights and information from participants about these topics and to dispense relevant information prepared for this session. An underlying purpose of the session will be to create a context within which participants can both contribute to and learn from the NARST research community.

3.02 Sunday, April 7th, 4:30-6:00 p.m. Burgundy B

Strand 04: Teacher Education (In-service)

Quality Criteria for Teacher Education Practitioner Research

Deborah Trumbull, Cornell University (Organizer of session)
John Loughran, Monash University
Amanda Berry, Monash University
Sandra Abell, University Of Missouri
Emily van Zee, University of Maryland

This symposium will address the issue of how we judge the quality of studies done by practitioners in order to better understand and to improve their practice. Such practitioner studies are generally referred to as teacher research or, when carried out by teacher educators, self-study of teacher education practices. The four panelists will describe actual studies they have done to improve science teaching or science teacher education in order to illustrate specific practitioner research studies and the issues inherent in such studies. The discussant will present some standard criteria for evaluating qualitative research, and then propose tentative criteria that may work better to judge practitioner study. The panel and the audience will then discuss the utility of the proposed criteria and offer other possible criteria.

Sunday, April 7th, 7:30P<8:30 p.m. Claiborne Room, Hyatt Regency
Teacher as Researcher Reception

Monday, April 8, 7:00-8:15 a.m. Burgundy D, Hyatt Regency
Practitioner Research Ad Hoc Committee
Deborah Roberts and Emily van Zee, co-chairs

**NARST
POLICIES
AND
PROCEDURES**

November, 2001

Table of Contents

	pages
I. Policies	
Policy for NARST Board Electronic Discussions and Votes	2-3
Policy and Procedures for Removal of NARST Members	
Elected or Appointed to Leadership Roles.....	4-5
Policy on Creation, Dissolution, and Renaming of Strands.....	6-7
II. Procedures	
<i>AWARDS COMMITTEES</i>	
JRST Award Committee.....	8-12
NARST Outstanding Paper Award.....	13-17
Distinguished Contribution Award Committee.....	18-20
Early Career Research Award.....	21-24
Doctoral Dissertation Award Committee.....	25-31
Masters Thesis Award Committee.....	32-40
<i>OTHER COMMITTEES</i>	
Policy Advisory Committee.....	41
Financial Advisory Committee.....	42
Publications Advisory Committee.....	43
Program Committee	
Guidelines for Strand Coordinators.....	44-57
Research Committee.....	58
Election Committee.....	59-65
International Committee.....	66
Equity Committee.....	67
Membership Committee.....	68-69
PRESIDENTIAL TEAM DUTIES	
President-elect.....	70-71
President.....	72
Past President.....	73
APPOINTMENTS TO OTHER NARST POSITIONS	
JRST Editor.....	74-75
Executive Secretary.....	76
Annual Meeting Coordinator.....	77

Policy for NARST Electronic Board Discussions and Votes

Rationale

Electronic voting is essential for the National Association for Research in Science Teaching (NARST) to conduct its business in a timely manner. Lacking electronic communication for the purpose of conducting business and voting, the NARST Board is forced to conduct most, if not all of its business, at the fall and annual meeting times. In an any time, any place, electronic age, it is unnecessary to wait 6 months to have a discussion and conduct a vote. Therefore, in the spirit of efficiency and timeliness, electronic discussions and votes will be conducted. Caution should be given, however, that last minute electronic voting should not be used to compensate for lack of planning or organization by members of the Board. The Board should be looking ahead to maximize the time used during our regular face-to-face Board meetings.

Policy

- Roberts Rules are used in board meetings. Electronic votes will follow similar procedures. The NARST President will serve as the parliamentarian for business conducted electronically.
- The President has the right to decide which items of business can be conducted electronically and which should be held for regular face-to-face Board meetings. Therefore, the President can “table” electronic business and bring it to the regular Board meeting.
- When a Board Member wants to make a motion, it should be sent to the President. The President will organize all electronic discussions and votes.
- The President will send the motion to the Board members, identifying the person who made the motion.
- It is the responsibility of each Board member to acknowledge receipt of the motion within 3 days and indicate availability to engage in an electronic discussion over the next 10 business days.
- When Board members vote, they should reply to all – not solely the President.
- It is the responsibility of the President and the Board member making the motion to supply to the Board at the time the motion is made all relevant information needed to make informed decisions. For example, motions with financial implication need to have accompanying NARST financial status information. Motions to vote on individuals for positions need to include resumes.
- The President will confirm an “electronic presence” of the majority of the Board via these acknowledgements. When this has been established, the President will call for a second to the motion, giving a specific timeline to respond. It is suggested that a second be received no later than 3 days after the motion has been sent to the Board. The President may elect to delay a discussion if he/she thinks an absent member is crucial to the discussion.

- Once a second has been made, the President will identify the person making the second and will call for a discussion. The President will specify a time frame for holding the discussion, but it is recommended that no more than 3 days be taken for a discussion.
- When Board members discuss a motion, they should reply to all – not solely the President.
- After the discussion has occurred, the President will call for the vote. It is recommended that 3 days be given to cast votes.
- The President will provide to the Board the final tally of votes showing the names of those Board members who are in favor, opposed, or abstained. The names of members who did not vote should also be shown.
- A section will be included in the regular Board meeting packets that includes a record of all the electronic votes taken during the year. These should be part of the minutes, and the Board should all vote on whether they are accurate at our regular Board meetings. These minutes should then become official part of the institutional history of NARST and posted on the NARST web site.

Revised 11/12/01

Policy and Procedures for Removal of NARST Members Elected or Appointed to Leadership Roles

Because NARST relies totally on volunteers to conduct its business, there must be a level of commitment on the part of the members to fulfill their obligations. For the most part, members are dedicated and responsible, with many devoting numerous hours to assigned tasks. The policy and procedures outlined here are designed for the small number of individuals who interfere with Committee or Board functions due to negligence of duty. In ALL cases, the first step should be for the Chair, Annual Meeting Coordinator or a member of the Presidential Team (President, President-elect, Past President) to conference with the individual and determine what is creating the situation. Every effort should be made to maintain open lines of communication among involved parties.

Behaviors Defining Negligence of Duty

These behaviors include, but are not exclusive to, a pattern of:

- consistently missing meetings, or not attending meetings for their entirety, without a valid excuse;
- not responding to a written, voicemail and/or email request made by a Committee Chair, Annual Meeting Coordinator, Strand Coordinator and/or a Presidential Team Member; and
- failing to complete an assigned task in a timely manner.

Procedures for Action

Board Members

- If a Board Member is negligent in fulfilling assigned tasks, the Presidential Team, led by the President, will discuss the matter with her/him to determine if there are extenuating circumstances involved.
- If the situation does not improve, the individual will be asked to resign. This request for the individual's resignation would be determined by a two-thirds majority vote of the Board.
- His/her replacement could be the individual who would have been the next person to be elected by the membership. Regardless, with the approval of the Board, an individual would be appointed to the vacant post by the President. In certain circumstances, the Board may determine that a replacement is not necessary.
- See the *Procedures* for a description of responsibilities for this position.

Individuals Appointed by the Board

- If someone who has been appointed by the Board is negligent in fulfilling assigned tasks, the Presidential Team, led by the President, will discuss the matter with her/him to determine if there are extenuating circumstances involved.
- If the situation does not improve, the individual will be asked to resign. This request for the individual's resignation would be determined by a two-thirds majority vote of the Board.
- With the approval of the Board, an individual would be appointed to the vacant post by the President.
- See the *Procedures* for a description of responsibilities for these positions.

Strand Coordinators

- The Annual Meeting Coordinator reports the problem to the Presidential Team.

- If a Strand Coordinator is found to be negligent in fulfilling assigned tasks, the Presidential Team, led by the President, will discuss the matter with her/him to determine if there are extenuating circumstances involved.
- If the situation does not improve, the President-elect asks the strand coordinator to stand down, and then she/he replaces this individual with another person.
- See the *Procedures* for a description of responsibilities for this position.

Committee Chairs

- One or more members of the committee report the problem to the Presidential Team.
- If a Committee Chair is found to be negligent in fulfilling assigned tasks, the Presidential Team, led by the President, will discuss the matter with her/him to determine if there are extenuating circumstances involved.
- If, in the President's judgment, the problem cannot be resolved, then the President will ask the Committee Chair to stand down as Chair. The President will then appoint another Chair from the membership of the committee. The President may also appoint an additional committee member from the membership if the former Chair declines to continue to participate as a member of the committee.
- See the *Procedures* for a description of responsibilities for this position.

Committee Members

- The Committee Chair reports the problem to the President.
- The Chair is asked what steps should be taken, e.g., work with the person, replace the person.
- The President or President-elect, depending on the timing, writes a letter of thanks to the individual and then replaces him/her on the committee.
- See the *Procedures* for a description of responsibilities for this position.

Revised 11/12/01

Policy on Creation, Dissolution, and Renaming of Strands

The Association encourages its members to engage in research that is consistent with and advances its mission. Members' research topics are grouped into broad, general categories of similar interest called Strands. Each year the Association announces a "call for proposals" and groups reports of its members' research by strand for presentation on the program of the annual meeting. A count of the presentations and publications of strand members that advance the Association's mission is a measure of member activity in an existing strand. The Association also provides an informal forum for the interaction of its members who are drawn together by a common interest in a unique field of study, teaching, or research, called a Special Interest Group (SIG), when the existing strand structure may not facilitate such activity. It also allocates time on the program of the annual meeting for SIG members to meet. Each Strand represents a common category of research interest of its members, and each SIG reflects a unique research interest. The number of SIGs is independent of the number of Strands.

Strand Creation, Dissolution, and Renaming

1. The Board creates, dissolves, or renames a strand by majority vote of its members.
2. The Research Coordinator recommends to the Board that a strand be created, dissolved, or renamed by majority vote of members of the Research Committee.
3. Members of the Research Committee are charged with responsibility for reviewing and recommending that a strand be created, dissolved, or renamed.
4. Members of the Association may petition the Research Committee to create, dissolve, or rename a strand.

Strand Creation:

1. The Research Coordinator recommends to the Board that a strand be created following a majority vote by members of the Research Committee.
2. A sponsoring member of the Association recommends that a strand be created through petition to the members of the Research Committee.
3. A sponsor who submits a petition to the Research Committee for its consideration must demonstrate that the proposed strand contributes to and advances the Association's mission and must document sustained interest for a minimum of two years by at least 5% of the Association's members.
4. Examples of sustained interest may included but are not limited to research publications, presentations, and meetings in Research Interest Groups (RIGs) by the Association's members.
5. On approval of the Board, the President-Elect appoints the Strand Coordinator(s).

Strand Dissolution:

1. The Research Coordinator recommends to the Board that a strand be dissolved following a majority vote by members of the Research Committee.
2. Members of the Research Committee will review periodically the activity level to determine that existing strands reflect the research interests of the Association’s members and advance the Association’s mission.
3. A strand may be recommended for dissolution by majority vote of the Research Committee when members of the Association fail to support it, as reflected by lack of sustained interest for at least two years, and/or the interests of its members no longer advance the Association’s mission.
4. A strand may be recommended for dissolution by a majority vote of its active members.
5. Lack of sustained interest as reflected by participation on the program of the annual meeting and contribution to the Association’s mission is established in consultation with the Strand Coordinator(s) and/or member(s).

Strand Renaming:

1. The Research Coordinator recommends to the Board that a strand be renamed following a majority vote by members of the Research Committee.
2. A Strand Coordinator or member petitions the Research Committee that a strand be renamed.
3. A Strand Coordinator or member who submits a petition to the Research Committee must demonstrate support for renaming the strand by a majority vote of the Association’s members who are active in the existing strand.

NARST Mission Statement

The National Association for Research in Science Teaching (NARST) is a worldwide organization of professionals committed to the improvement of science teaching and learning through research. Since its inception in 1928, NARST has promoted research in science education and the communication of knowledge generated by the research. The ultimate goal of NARST is to help all learners achieve science literacy. NARST promotes this goal by: 1) encouraging and supporting the application of diverse research methods and theoretical perspectives from multiple disciplines to the investigation of teaching and learning in science; 2) communicating science education research findings to researchers, practitioners, and policy makers; and 3) cooperating with other educational and scientific societies to influence educational policies.

Criteria for Advancing the Mission of the NARST

To advance the mission of the Association, strand members engage in and report on professional activities that contribute (but are not limited) to one or more strand themes pertaining to the following outcomes:

1. Improvement of science teaching and learning through research;
2. Communication of research to researchers, practitioners, and policy makers pertaining to the improvement of science teaching and learning;
3. Promotion of universal scientific literacy; and/or
4. Cooperation with other educational and scientific societies to influence educational policies.

Revised 11/12/01

NARST Awards Committees

JRST Award Committee

Charge:

The *JRST* Award Committee is responsible for identifying the outstanding article appearing each year in *JRST*.

Procedures:

Phase 1

During this phase, the outstanding article within each issue of the year's Volume is selected. Each committee member reads 2-3 issues and assigns points in various categories to each article (see Criteria) and rank each article. Members of the committee are encouraged to contact other members reviewing the same issue via e-mail to discuss the relative merits of the articles and to utilize the diversity of expertise of our members. The article receiving the highest ranking from each issue is selected. If two or more articles are very close in ranking in a given issue, both articles are entered in the second phase review.

Phase 2

The article receiving the highest ranking from each issue is then reviewed a second time and rated. During this round, each committee member receives ten articles to read, evaluate and rank. Again, e-mail communication with other members of the committee is encouraged. At the end of this review, if two or more articles are close in ranking, a third round of reading assignments is made. These articles are evaluated and a rank order is assigned by each committee member. The article receiving the highest rank is declared the outstanding article.

Time Line and Due Dates:

July 15	Issues 1-5 evaluations due
October 30	Issues 6-8 evaluations due
January 19	Issues 9 & 10 evaluations due
February 1	First round winners send to members for second round evaluation
February 15	Second round evaluations due
March 1	Third round evaluations due (if a third round is needed)
March 5	Winning article and author(s) send to NARST President
March or April	Board Report to NARST President
March or April	Award presented at the NARST Annual Meeting Luncheon

JRST Award Committee (cont.)

Documents and Sample Letters:

Letter to Committee Members:

Dear _____,

Welcome to the JRST Award Committee. As you know, our task is to find and identify the outstanding JRST research article for the year. The authors are recognized at the annual NARST national meeting. This is an important way NARST recognizes excellence in scholarship in our research community, and our committee's task is a challenging and important one. Although the task requires significant time commitments, I see this task as one that can be intellectually stimulating for each of us as we are challenged to read carefully a broad spectrum of research and scholarship that is published in JRST. I think we will each come to value the diversity and multiple strengths of our organization as we engage in this process.

Phase 1

During this phase, the outstanding article within each issue of the year's Volume is selected. Each committee member will read 2-3 issues and assign points in various categories to each article (see Criteria) and rank each article. You are encouraged to contact other members reviewing the same issue via e-mail to discuss the relative merits of the articles and to utilize the diversity of expertise of our members. The article receiving the highest ranking from each issue will be selected. If two or more articles are very close in ranking in a given issue, we will enter both articles in the second phase review.

Phase 2

The article receiving the highest ranking from each issue is then reviewed a second time and rated. During this round, each committee member will receive ten articles to read, evaluate and rank. Again, e-mail communication with other members of the committee is encouraged. At the end of this review, if two or more articles are close in ranking, a third round of reading assignments will be made. These articles will be evaluated and a rank order will be assigned by each committee member. The article receiving the highest rank is declared the outstanding article.

Evaluation forms and a criteria list are enclosed for your use. They should be used for each article read in your assigned issues. These are similar to the forms that have been used in the past. If you do not have enough copies, feel free to make additional copies. If your first assignment includes Issues 1-5, you should complete and send them to me by July 15. Those members assigned numbers 6, 7 and 8 will need to submit their assessments by October 30. Finally, those with numbers 9 and 10 will need to submit their assessments by January 19, of the following year. You will receive the second round of ten papers to review by February 1. Please note the fast turn-around time in this round - we will need your reviews back by February 15.

I am asking each of you to acknowledge your receipt of this letter and your acceptance of your reading and review assignment by sending me an e-mail message at <>. This will help me assure that we have enough reviewers for each issue. Please note your assignments in this letter. Also attached is the address and e-mail address of all members. Please look at this information carefully and let me know if there are any changes. This will likely be the only letter you will get from me. Virtually all correspondence from now on will be carried out electronically. This is why it is imperative that you **let me know if your e-mail address changes.**

Thank you for your willingness to serve on the JRST Award Committee. All NARST members appreciate your help and support in this important endeavor. Please do not hesitate to e-mail me or call me if you have any questions. I look forward to working with you this year on the JRST Award Committee.

Timeline:

July 15	Issues 1-5 evaluations due
October 30	Issues 6-8 evaluations due
January 19	Issues 9 & 10 evaluations due
February 1	First round winners send to members for second round evaluation
February 15	Second round evaluations due
March 1	Third round evaluations due (if a third round is needed)
March 5	Winning article and author(s) send to NARST President
March/April	Board Report to NARST President
March/April	Award presented at the NARST Annual Meeting Luncheon

JRST Award Committee (cont.)

Criteria and Instructions for Ranking the Articles in an Issue of the Journal of Research in Science Teaching

- | | | |
|----|---|--|
| 1. | Significance of Problem or Issue
(10 pts.) | How important or critical is the problem or issue being addressed by the author(s)? Timeliness, relevance and scope are all aspects of this concept. |
| 2. | Background (10 pts.) | How adequate is the presentation of related theory and relevant literature? |
| 3. | Approach (10 pts.) | How adequate and sound is the approach to the problem or issue? In a research article this includes design and data analysis; in a position paper this includes the logic and nature of the argument used. |
| 4. | Significance of Conclusions or Positions (10 pts.) | Are they based on the evidence and logical argument and then presented in such a way as to address relevant concerns in science education? |
| 5. | Potential Impact of the Outcomes or Positions (10 pts.) | What is the potential to influence thinking and practices in science education? Do the outcomes or positions have potential impact? |
| 6. | Uniqueness (10 pts.) | How new are the approach and/or ideas presented in the article? |
| 7. | Communication (10 pts.) | How well written is the article? |
| 8. | Overall (10 pts.) | What is your general opinion of the article from a broad perspective? |

Record your ratings for each article on a separate rating sheet along with the necessary descriptive information about the article. You should also include comments related to your overall rating.

**JRST Award Committee (cont.)
ARTICLE EVALUATION FORM**

JRST Volume _____ Number _____ Page #s _____

Title _____

Reviewer : _____ E-mail: _____ FAX: _____

RATING SCALE

	POOR	BELOW AVERAGE	ADEQUATE	GOOD	EXCELLENT						
	1	2	3	4	5	6	7	8	9	10	
			<u>Points</u>								<u>Criterion</u>
1.			_____								Significance of Problem or Issue
2.			_____								Background
3.			_____								Approach
4.			_____								Significance of Conclusions or Positions
5.			_____								Potential Impact of Outcomes or Position
6.			_____								Uniqueness
7.			_____								Communication
8.			_____								Overall
			TOTAL _____								

RANK _____
Rank in comparison to the 12 articles,
(1 indicates the highest rank and 12 indicates the lowest rank.)

OVERALL COMMENTS:

RETURN TO:
Chair, JRST Committee

NARST Outstanding Paper Award Committee

Charge:

The Outstanding Paper Award Committee is responsible for identifying the outstanding paper presented at the previous year's annual meeting.

Procedure:

During the annual meeting, the President-elect reminds attendees that they may nominate any papers presented during the conferences. After the conference, an email notice is sent to the NARST list-serve.

Nominees are contacted by email and invited to submit an electronic version (either an rtf or pdf file) of the paper within 6 weeks of the conference's conclusion. The committee chair assigns each paper a number and the electronic files are called NARST###.rtf. If the paper cannot be submitted electronically, author(s) have the option of sending the committee chair 12 paper copies.

Selection of the NARST Outstanding Paper is conducted in three rounds.

In the **FIRST ROUND**, each paper is rated and ranked by five (5) committee members. Each committee member rates 10-12 papers. Papers are assigned to raters to avoid obvious conflicts of interest even though author names and affiliations remain anonymous. The criteria for evaluation focuses equally on significance, conceptual/theoretical background, research approach, conclusions, craftsmanship/communication, and creativity (see Rating Sheet).

In the **SECOND ROUND** each of the papers rated and ranked in round one in the top five are rated by five (5) committee members, with each committee member reviewing 5-6 papers. Assignment to reviewers is such that no paper is reviewed in the second round by a committee member who reviewed it in the first round.

In **ROUND THREE** those papers rated in round two in the top three are rated by all committee members to identify those papers ranked in the first, second, and third places.

Timeline:

September	First Round Reviews Completed
December 5	Second Round Reviews Completed
February 10	Recommendations forwarded to President
March 1	Recipient(s) notified by President
March/April	Award presented at the Annual Meeting Luncheon

NARST Outstanding Paper Award Committee (cont.)

Documents and Sample Letters:

Letter to nominees

May

Dear Dr. :

Congratulations! Your paper _____ was nominated for the XXXX NARST Outstanding Paper Award. If you accept the nomination, NARST requires that you submit an electronic version of the paper for review. Please save the file as an .rtf or .pdg file titled as NARSTXX. Your name and the name of the co-authors and affiliations should appear on a separate cover page and only on this page, to ensure anonymity in the review process. Unfortunately, I do not have the staff to remove names and affiliations, so it is important that you complete this requirement. In order for your paper to be sent out for review, I will need to receive the electronic version within 6 weeks of the end of the conference (DATE). Please note that the file you submit should be identical to the paper you presented at the NARST XXXX Annual Meeting; otherwise, your paper will be disqualified.

I appreciate your interest in the NARST Outstanding Paper Award and look forward to receiving and reading your paper. If you have any questions, please feel free to call me at XXXXXXXXX or send me an E-mail message at XXXXXX

Sincerely,

XXXXXXXXXXXX

Chairperson, NARST Award Committee

NARST Outstanding Paper Award Committee (cont.)

Letter to Committee Members

Dear :

The work of selecting the *NARST Outstanding Paper Award* is upon us. I am pleased to report that from among the papers presented at the XXXX Annual Meeting, XX papers were nominated for the *NARST Outstanding Paper Award*. Of those nominated, XX authors sent the required files. Each reviewer will receive a maximum of 10 papers for the first round of review. The scores reported on each paper will determine whether it will be included in the second round. I will use the results of the first round to cut the pool of papers in half.

I appreciate your willingness to work within an electronic review process. I will shortly send you rtf files of the papers to review for the first round, the rating and summary score sheet. Each paper will have a unique number ID as its file name. Please read each paper and use the descriptions on the Rating Sheet to make your assessment. Each criterion is worth ten (10) points. Please discriminate among the papers. Score quality papers with high scores, mediocre papers with medium scores, and questionable papers with low scores. Our committee meeting we decided that a high quality paper is one that is close to publication.

Clearly distinguishing among the papers will ensure that the best paper will receive the Outstanding Paper Award. Record your rating for each paper on a separate Rating Sheet. Once you have reviewed the papers, transfer your totals to the Summary Score Sheet. Rank-order your papers by giving the paper with the highest score the first ranking. Return the Summary Score Sheet, your Rating Sheets, and comments to me no later than _____. If possible, please do this electronically.

I will mail Round Two reviews by _____ and will request that you complete this round of reviews by _____. Round Two reviews will result in the selection of the top 2 - 6 papers. The 'final' round papers will be judged by all committee members. I will send out the final round of reviews by _____ and request that you return them by _____.

If you receive a paper that creates a conflict of interest, please contact me as soon as possible. I will make arrangements to send the paper to another reviewer. Thank you in advance of your participation in this important activity of the NARST Awards Committee. Please contact me through E-mail (XXXX) or at XXXX, if you have any questions about the review process or the papers sent to you.

Sincerely,

Chair, NARST Award Committee

NARST Outstanding Paper Award Committee (cont.)

NARST OUTSTANDING PAPER RATING SHEET

PAPER # _____

<i>CRITERION</i>	POSSIBLE POINTS	RATING
1. Conceptual/Theoretical: Is the background of the study embedded in theoretical constructs? Does the study fit or reinforce the belief system that underlies the paradigm which the research follows?	10	
2. Research Approach: Is the methodology suitable to the question(s) asked (i.e., empirical or theoretical)? Is the description of method sufficient to allow the reader to understand what was done?	10	
3. Conclusions: Do the conclusions add to, refine, or refute the theoretical constructs? Are the conclusions valid and/or viable? Are they presented in a way that is meaningful to science educators?	10	
4. Craftsmanship/Communication: Does the paper demonstrate clarity, coherence, insightfulness, and incisiveness in communication? Does the paper advance a(n) central idea(s) or theme(s)?	10	
5. Significance of the Study: How important is the study to the science education community and/or the education community at large?	10	
6. Creativity: Does the study break new ground? Does it involve risk-taking? Does it invite criticism?	10	
TOTALS	60	
ADDITIONAL COMMENTS:		

Distinguished Contribution Through Research Award Committee

Charge:

The Distinguished Contribution Award Committee is responsible for identifying a member of NARST whose lifetime research has made a significant impact in science education.

The Award:

The Association desires to recognize and reward individuals who have made significant contributions to science education through research. The recipient of the Distinguished Contribution Through Research Award should have contributed over a period of at least 20 years since the award of his or her doctorate and should be at the pinnacle of his/her career. The award is made to an individual who over a period of at least 20 years has:

- a) Made a CONTINUING CONTRIBUTION to science education through research;
- b) Provided NOTABLE LEADERSHIP in science education through research; and
- c) Had SUBSTANTIAL IMPACT on 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. This award is the highest recognition NARST can bestow for contributions to science education through exemplary, high quality research. The Distinguished Contribution Award Committee is responsible for soliciting nominations for this award, reviewing nominations, and recommending an awardee to the NARST Executive Board.

Procedures:

1. Nominations are solicited through NARST News, the listserv, the NARST web page and through personal contacts by the Committee. Nominations are to be sought from as wide a field of candidates as possible to be inclusive of gender, age and ethnicity.
2. The Committee Chair informs the members of the Committee of the nominees and decides (with the help of the Committee if needed) if any nomination is ineligible. Nominees are contacted by the Chair to ascertain if persons wish to participate in the selection process. If they do, they are to supply a two-page CV highlighting main aspects of their contribution to research.
3. This two-page CV is presented to the NARST Executive Board at the October Meeting. The NARST Executive Board is asked to ratify these nominations.
4. The Committee Chair asks those nominees who are ratified by the Board to submit a full CV outlining their contributions to research and the names of three persons from whom letters of support can be solicited.
5. The Committee Chair requests that each nominator submit a letter of nomination (1-4 pages in length) for the person he or she nominated, and that each nominator coordinate the procurement of three additional letters of recommendation (1-2 pages in length) from individuals who know the candidate and the contributions to the field. The nominator is provided with the names given by the nominee. To prevent conflicts of interest when one person writes two or more letters for different nominees, persons are allowed to support (either by letter of nomination or letter of support) ONLY one candidate in a given year.

6. All page limits will be adhered to in fairness to all nominees (if a recommendation letter or nomination letter exceeds the page limit, only the first 2 or 4 pages, respectively, will be included in the materials to the committee).
7. The deadline for receipt of all materials is the end of November. The Chair obtains nominees full CV and letters of support and makes copies to be sent out to members of the Committee who are asked to rank the individuals.
8. The decision of the nominated recipient of the Distinguished Contributions Through Research Award is made by the accumulated rankings. The selected recipient shall be ratified by members of the NARST Executive Board.
9. The President notifies the recipient of the award in advance of the Annual Meeting, where The Distinguished Contributions Through Research Award recipient is presented a plaque inscribed with a 250-word (or less) citation.

Distinguished Contribution Through Research Award Committee (cont.)

Call for Nominations

The committee to select the NARST Distinguished Contribution Through Research Award requests nominees from the NARST membership. The recipient of this award should have contributed over a period of at least 20 years since the award of his or her doctorate and should be at the pinnacle of his/her career. This award is the highest recognition NARST can bestow for contributions to science education through exemplary, high-quality research. Please note that the award will be made to an individual who, over a period of at least 20 years, has:

1. made a continuing contribution to science education through research;
2. provided notable leadership in science education through research; and
3. has had substantial impact on science education through research.

Please email nominations to XXX, Chair, Distinguished Contributions Committee by September 15, XXX at . Include the following in your nomination packet:

- 1) A letter of nomination (1-4 pages in length) for the candidate;
- 2) Three additional letters of recommendation (1-2 pages in length) from individuals who know the candidate and the contributions to the field. (The recommendation letters can be addressed to the committee members or chair). Select individuals to write recommendation letters for one candidate only--this will prevent any conflicts of interest when one person writes two or more letters for different nominees;
- 3) A curriculum vita.

Please understand that the page limits will be adhered to in fairness to all nominees (if the recommendation letter exceeds the page limit, only the first 2 or 4 pages, respectively, will be included in the materials to the committee

Criteria

NARST seeks to improve science education through research. To this end, the Association desires to recognize and reward 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. The recipient of the Award should have contributed over a period of at least 20 years since the award of his or her doctorate and should be at the pinnacle of his/her career. This award is the highest recognition NARST can bestow for contributions to science education through exemplary, high quality research. Please note that the award will be made to an individual who over a period of at least 20 years has:

- a) made a CONTINUING CONTRIBUTION to science education through research;
- b) provided NOTABLE LEADERSHIP in science education through research; and
- c) had SUBSTANTIAL IMPACT on science education through research.

Early Career Research Award Committee

Charge:

The Early Career Research Award Committee is responsible for identifying a member of NARST whose research in the five years immediately following receipt of the doctorate is worthy of recognition by the Association.

Procedures:

1. March/April NARST Annual Meeting. Obtain list of committee members and determine addresses including e-mail, fax, and phone.

2. August/September. Send the first Call for Nominations over the NARST net and to the NARST Newsletter Editor.

Nominations are to be sought from as wide a field of candidates as possible to be inclusive of gender, age and ethnicity.

Timeline:

April - give Call for Nominations for the upcoming year to the NARST Newsletter editor

August - issue 1st call for nominations on the NARST listserv and web page

September - issue 2nd call for nominations on the NARST listserv

October - prepare report for fall NARST Board meeting

November 15 - nominations due. The Chair reviews all packages for completeness and requests additional material where necessary.

November 20 - When the packages are complete, they are organized with one copy of each package for each of the six reviewers along with a rating sheet for each nominee. An e-mail is also sent so that reviewers will be expecting the package.

January 1 - The ratings and recommendations are received from committee members. The Chair reviews and summarizes the results. If there is a tie or no clear decision, the Chair will also rate the candidates, although this is rarely necessary.

By or before February 1 - notify Executive Secretary and President of results. This notification must be sufficiently informative for the Executive Secretary to prepare the Plaque. Include the candidate's name, institution, date and institution of Ph.D. award, and inscription of about 100 words.

March/April - Review and modify as necessary the procedure for managing this committee (summarized in this document). Submit any changes to the Executive Secretary and President. Prepare report for spring NARST Board meeting.

Early Career Research Award Committee (cont.)

CALL FOR NOMINATIONS

Nominations are invited for the NARST Early Career Research Award.

The NARST Early Career Research Award acknowledges contributions to science education through research by individuals during the five years immediately following receipt of the doctoral degree. To qualify for the award this year, the nominee must have received the doctoral degree on or after January 1, XXXX. *All NARST members are encouraged to consider nominating an eligible and deserving early career member.*

Nominations for the award must be accompanied by seven (7) copies of supporting material including

- a) a letter of nomination which discusses the nominee's impact on the field,
- b) the nominee's vita,
- c) a two-page summary of the nominee's research interests, prepared by the nominee,
- d) three of the nominee's best papers, and
- e) three letters of support to be sent separately.

Each candidate is reviewed independently by six NARST committee members. If you are interested in seeing the rating sheet that is used in this process, please request it from the committee chair.

Nomination materials should be sent to XXXXXXXX at the address below no later than November 15, XXXX.

Early Career Research Award Committee (cont.)
NOMINEE RECORD RATING SHEET

Nominee _____

I. Submitted Papers

Paper 1 Title: _____	Low				High
Intellectual Quality of Scholarship	1	2	3	4	5
Quality of Theoretical Foundations	1	2	3	4	5
Methodological Rigor	1	2	3	4	5
Creativity/Innovation	1	2	3	4	5

Paper 2 Title: _____					
Intellectual Quality of Scholarship	1	2	3	4	5
Quality of Theoretical Foundations	1	2	3	4	5
Methodological Rigor					
Creativity/Innovation	1	2	3	4	5

Paper 3 Title: _____					
Intellectual Quality of Scholarship	1	2	3	4	5
Quality of Theoretical Foundations	1	2	3	4	5
Methodological Rigor					
Creativity/Innovation	1	2	3	4	5

Comments on Quality of the Papers:

II. Other Indicators (Vita Review)

Prominence of Journals in Which Published	1	2	3	4	5
Quantity of Publications	1	2	3	4	5
Research Conference Presentations	1	2	3	4	5
Research Grant Awards	1	2	3	4	5

Comments on Other Indicators:

III. Nomination Letters

Nominee's Letter	0.5	1.0	1.5	2.0	2.5
Support Letter 1	0.5	1.0	1.5	2.0	2.5
Support Letter 2	0.5	1.0	1.5	2.0	2.5
Support Letter 3	0.5	1.0	1.5	2.0	2.5

Comments on the Nomination Letters:

IV. Summary

Total Numeric Rating _____

Overall Rank
Among Nominees
(1st, 2nd, etc.) _____

NARST Outstanding Doctoral Research Award Committee

Charge:

The Outstanding Doctoral Research Award Committee is responsible for identifying a doctoral dissertation completed by a NARST member in the previous year that is worthy of recognition by the Association.

Procedures:

1. At the NARST annual meeting decisions relating to the following year's procedures are discussed and agreed by the committee.
2. Send the Call for Submissions for the Award to the NARST Newsletter and have it posted on the NARST listserv and web page (see example attached). Nominations are to be sought from as wide a field of candidates as possible to be inclusive of gender, age and ethnicity.
3. Send a letter of introduction and timeline for the upcoming process to the committee. Send reminder to NARST listserv.
4. Acknowledge receipt of submissions as they arrive and check NARST membership of candidates.
5. Assign ID numbers randomly to submissions. Send packages containing abstracts, rating sheets, criteria for judging, and a cover letter (with deadline reminder) to the committee.
6. Receive and acknowledge ratings from committee. Combine the ratings, determine the average rank for each applicant and select the top three or four candidates as finalists. Inform the committee of the results of judging.
7. Inform all candidates about the status of their abstracts, and request full dissertations from finalists.
8. Assign ID numbers to complete dissertations and send rating sheets, criteria for judging, and a cover letter (with deadline reminder) to the committee.
9. Receive and acknowledge ratings from committee members. Combine the ratings, determine the recipient and inform the President of NARST, who informs the recipient. Chair informs committee and the executive secretary of the result.
10. Send consolation letters to the other finalists and a report to the NARST Board of Directors.

No ties are allowed for the selection of the awardee. In case of a tie for the winner, the chair of the committee makes an informed decision.

NARST Outstanding Doctoral Research Award Committee (cont.)

Timeline:

The dates in the time line are approximate, as actual dates will vary according to the dates for the NARST annual meeting.

<u>Date</u>	<u>Event</u>
April-May	Chair sends announcement to the NARST News and requests posting on NARST web page
July-August	Chair posts Announcement on Listserv
Sept 1	Chair sends email to committee members reminding them of the upcoming process, and checks addresses for sending abstracts
Sept 15	Deadline for receiving abstracts Chair sends letters/emails to candidates acknowledging receipt of abstracts as they arrive
Sept 20	Chair sends packages of abstracts to committee members
End Oct	Deadline for receiving ratings of abstracts from committee members
Nov 5	Chair informs committee members of outcome from first round of judging
Nov 5	Chair sends letters (email and hard copy) to all candidates regarding status of abstracts
Nov 20	Deadline to receive unbound copy of dissertation from finalists
End Nov	Chair sends dissertations and cover letter to committee members Committee members acknowledge receipt of package by email ASAP
mid Jan	Chair sends reminder to committee members that the deadline for dissertation ratings is end of January.
End Jan	Deadline for receiving final rankings
Early Feb	Declare recipient and inform NARST President and Executive Secretary. President contacts recipient, and then contacts committee chair when this is done.
Mid Feb	After recipient is notified by the NARST President, Chair sends letter to committee members notifying them of the recipient and sends consolation letter to other finalists. Chair informs Executive Secretary of result.
Mid Feb	Chair sends committee report to NARST President and Secretary by email and hard copy.
March-April	Annual meeting of NARST. Chair prepares agenda to enable discussion and agreement about judging process, timelines, etc., for the following year.

NARST Outstanding Doctoral Research Award Committee (cont.)

Sample Call for Submissions for NARST Outstanding Doctoral Research Award

The NARST Outstanding Doctoral Research Award Committee invites all current NARST members who completed a dissertation within the 15 months prior to September 15, [current year] to submit an expanded ten page abstract to the committee for consideration for the [following year] NARST Outstanding Doctoral Research Award. Nominations are to be sought from as wide a field of candidates as possible to be inclusive of gender, age and ethnicity.

Judging will occur in two rounds. The first round of judging will be based on the ten page abstract. From these, a small group of finalists will be asked to submit one unbound copy of the complete dissertation. The final decision of the committee will be based on the complete dissertation. The first round of judging will be completed in November and all applicants will be notified. The recipient will be announced at the awards luncheon at the [following year] annual meeting in [location].

The committee welcomes doctoral dissertations from all research perspectives. The ten-page abstract should be structured to describe clearly the following: (1) the purpose or objectives of the study; (2) conceptual/theoretical framework; (3) research approach/method; (4) data sources and methods of analysis; (5) findings or results; (6) conclusions and implications; and (7) significance of the study.

Judging in both rounds (for abstracts and dissertations) will be based on the following three central questions: (1) Is the question being asked of importance to the community of science educators? (2) Is the research approach and its implementation thorough and appropriate for the research question(s)? and (3) Are the results and conclusions appropriate for the context of the study? Specific criteria considered in relation to these questions include: the significance of the research problem/area; conceptual/theoretical background; thoroughness of the research approach and methods; identification of conclusions/outcomes and their implications for science education; clarity and coherence of communication; and overall originality or creativity. In the past, successful applicants have been those able to make a case for the significance of their study to the science education community as a whole; and/or who convinced the reviewers of the originality of the questions asked or methods employed.

Submission Procedure: Persons wishing to be considered for the award should submit the following: (A) eleven copies of a **ten page**, double spaced abstract (margins are limited to 1 inch all around using 10-12 cpi font); (B) eleven copies of a **five page** abbreviated bibliography, one attached to each abstract; and (C) one copy of a cover sheet which includes the author's name, address (where they can be reached in September to December, [current year]), e-mail address, telephone and fax numbers, title of the study, the name and address of the institution where the dissertation was completed, a list of the members of the dissertation committee, and the date the dissertation was passed. The major advisor/professor/supervisor or chair of the dissertation committee should sign the cover sheet. **NOTE:** The title of the study should appear on the first page of the abstract, but the author's name and other identifying information should appear **ONLY** on the cover sheet.

Abstracts must be **received** by the Chair of the Award Committee at the following address by **September 15, [current year]**. (Include address information here.)

NARST Outstanding Doctoral Research Award Committee (cont.)

CRITERIA FOR JUDGING NARST OUTSTANDING DOCTORAL RESEARCH AWARD

Please read each dissertation/abstract using the following criteria to make your evaluation. Each criterion is worth ten points (i.e., 10 is the highest possible score). Record your ratings for each dissertation/abstract on the rating sheet. Return the ratings sheets and any comments to the Chair of the Committee by the due date.

1.	Significance of the Research Problem	How important or critical is the research problem to the science education community and/or the education community at large? Does the study contribute significantly to the knowledge base in science education?
2.	Conceptual/Theoretical Background	Is the study embedded in theoretical constructs? Does the study fit or reinforce the belief system that underlies the paradigm which the research follows?
3.	Research Approach	Is the research approach suitable to the question(s) asked (e.g. experimental, correlational, naturalistic, interpretive, ethnographic, historical, etc.)? Is the description sufficient to allow the reader to understand what was done? Are data gathering and data analysis procedures, and context of the study (e.g., sample, setting, description of culture, etc.) adequately described? Are the standards for judging the candidate's knowledge claims explicit, appropriate and well justified?
4.	Conclusions/Outcomes/Significance	Do the conclusions add to, refine, or refute the theoretical constructs? Are the conclusions valid and/or viable? Are they presented in a way that is meaningful to science educators? Are the implications of the study drawn clearly and well justified?
5.	Quality of Communication	Does the presentation of the dissertation demonstrate clarity, coherence, insightfulness, and incisiveness in communication? Is/are the genre(s) used throughout the dissertation appropriate and well justified?
6.	Originality/Creativity	Does the study break new ground? Does it involve risk-taking? Does it invite criticism?

PLEASE FAX YOUR RATINGS SHEETS TO [committee chair, give fax number]

NARST Outstanding Doctoral Research Award Committee (cont.)

RATING SHEET FOR NARST OUTSTANDING DOCTORAL RESEARCH AWARD

Reviewer _____

Please rate each dissertation/abstract on each criterion using a ten point scale where 10 is highest and 1 is lowest. Each criterion is defined on the attached page.

Abstract ID	1. Significance	2. Background	3. Research Approach	4. Conclusions	5. Communication	6. Originality	Total (Max = 60)
01							
01	Comments:						
02							
02	Comments:						

NARST Outstanding Doctoral Research Award Committee (cont.)

Sample Letter to Finalist

[address]

Dear [give name],

Thank you very much for participating in the NARST Outstanding Doctoral Research Award process for the Year [current year]. The committee's judging of the abstracts is now completed and I am pleased to inform you that your dissertation has been selected as a finalist for the award.

The final judging of the dissertation award is made on the complete dissertation, therefore I request that you send one, single-sided, unbound copy of the dissertation to me at the address below. Please ensure that any information which might identify you is removed so that judging is anonymous. I will arrange for copies to be made and sent to the committee members. In order to give me time to do this, and to allow the committee time to complete its deliberations, I need to have the copy of your dissertation by [date of deadline]. Please respond to me at once by email confirming that you have received this letter and that you intend to send your dissertation to arrive by the due date

The recipient will be announced at the awards luncheon at the [following year] annual meeting in [location], although when the judging process is complete, you will be informed of the result.

Please accept my congratulations for being selected as a finalist for this award and I look forward to receiving the copy of your dissertation.

Yours sincerely,

signed

Chair, NARST Outstanding Doctoral Research Award Committee

Please send a copy of your unbound dissertation to the address below, to arrive by [give date]

Place name of Chair, address and contact details here

NARST Outstanding Doctoral Research Award Committee (cont.)

Sample Letter to Non Finalist

[address]

Dear [name],

Thank you very much for participating in the NARST Outstanding Doctoral Research Award process for the Year [current year].

The committee's judging of the abstracts is now complete and I am sorry to inform you that your dissertation has not been selected as a finalist for the award. The judging process was very thorough and all abstracts received ratings that indicated they were of high quality. We are very pleased to see such high quality research being carried out by NARST members.

On behalf of the Committee, I thank you for your participation in the judging process and wish you the very best of good fortune in your future career.

Yours sincerely,

signed
Chair, NARST Outstanding Doctoral Research Award Committee

NARST Outstanding Master's Research Award Committee

Charge:

The Master's Research Award Committee is responsible for identifying master's research completed by a NARST member in the previous year that is worthy of recognition by the Association.

Procedures:

Phase I: Publicizing the Award: Announce in NARST NEWS - June issue, post on NARST listserv and home page. Nominations are sought from as wide a field of candidates as possible to be inclusive of gender, age and ethnicity.

Phase II: Rating Research Summaries

Upon receiving applications, make a folder for each applicant. Make enough copies of the summaries to send to each committee member. Assign each summary a code number for identification and be sure candidates names do not appear on any of the page headings. Also, assign an identification code to each committee member.

Phase III: Ranking Finalists. Top three theses from the rating are considered for final selection. Don't do phase II if three or fewer theses were submitted.

Phase IV: Announcing Award Recipient. The chair informs the committee, the President, and the Executive Secretary of the results. The President informs the recipient, the ES prepares the plaque, and the Chair informs the unsuccessful finalists.

Timeline:

June	Announce in NARST NEWS
August	Announce on NARST listserv and post on web page
Oct. 1	Applications due from candidates
Nov. 22	Rating Sheets due from committee
Dec. 15	Notify finalists (send regrets to non-finalists)
Jan. 8	Ten unbound copies of entire thesis due from candidate finalists
Feb 19	Final ranking due from committee
Feb 27	Notify President and Executive Secretary of recipient. President informs recipient.
March	Chair notifies unsuccessful candidates
March/April	Award presented by chair at Annual Meeting Luncheon

NARST Outstanding Master's Research Award Committee (cont.)

CALL FOR APPLICATIONS—NARST Outstanding Research Award

We seek quality applications for the NARST Outstanding Master's Research Award. This award is an honor not only for the individual researcher receiving the award, but also for the faculty member who chaired the Master's degree committee, and the institution granting the degree. If your institution grants Master's degrees with an emphasis in science education, please review the work of recent graduates and submit your best candidates for this award. The research product may be any research report, including but not limited to a bound Thesis, resulting from independent, original research that was required and completed as part of a Master's Degree program. Nominations are sought from as wide a field of candidates as possible to be inclusive of gender, age and ethnicity.

The deadline for applications for the Outstanding Master's Thesis Award is October 1st.

Eligibility

- Applicant must have been awarded a Master's Degree between September 1 and August 31 of the year prior to the annual meeting at which the award will be made.
- Applicant must be a member of NARST

Application

- One sheet which includes the applicants name, address, home and business phone telephone numbers, e-mail address and the title and an abstract of the research report;
- Ten copies of a 5-page summary of the research report. These summaries should contain the title of the research report, but NOT the name of the author;
- One copy of some evidence that the research was officially recognized as fulfillment of a research requirement for a Master's Degree by university or college standards (for example, a photocopy of the official, signed cover sheet);
- One copy of a letter of support from a NARST member;
- A stamped self-addressed post card or envelope if the applicant wants confirmation that the materials were received.
- All application materials must be received by October 1, XXXX and sent to:
- The chair of the committee (name, address and e-mail).

NARST Outstanding Master's Research Award Committee (cont.)

Applicant Letter #1:

Name and address of applicant

Dear _____:

Thank you for submitting your application for the Outstanding Master's Research Award for the National Association for Research in Science Teaching. We have received all the necessary materials.

All candidates will be notified of their application status by the middle of December. Finalists will be asked to submit 10 copies of their entire thesis.

Thank you again.

Sincerely,
Name of Chair

Committee Letter #1:

Name and address of committee member

Dr. _____:

Thank you for your participation on the Outstanding Master's Thesis Award Committee.

Enclosed please find:

- copies of summaries submitted for the award (each submission had a letter of support and was an officially recognized research product)
- one instruction sheet
- one rating sheet for each summary to record your ratings.

Please send the rating sheets and thesis summaries back by November 22, 2000 to:

Name, address, fax and e-mail of Chair of Committee

It is extremely important that we meet deadlines. Thank you very much for your time and effort!

Sincerely,
Name of Chair

NARST Outstanding Master's Research Award Committee (cont.)

NARST OUTSTANDING MASTER'S RESEARCH EVALUATION CRITERIA

Please read each research summary submitted, using the following criteria to make your evaluation. Each criterion is worth 10 points. Record your ratings for each paper on a separate rating sheet. Return the rating sheets (or copies of same), and comments to the Chair of the Committee.

1.	Significance of the Study	How important or critical is the study to the science education community and/or the education community at large? Does the study contribute significantly to the knowledge base in science education?
2.	Conceptual/Theoretical Background	Is the study embedded in theoretical constructs? Does the study fit or reinforce the belief system that underlies the paradigm which the research follows?
3.	Research Approach	Is the research approach suitable to the question(s) asked (e.g. experimental, correlational, naturalistic, interpretive, ethnographic, historical, etc.)? Is the description sufficient to allow the reader to understand what was done? Are data gathering and data analysis procedures, and context of the study (e.g. Sample, setting, description of culture, etc.) adequately described?
4.	Conclusions	Do the conclusions add to, refine, or refute the theoretical constructs? Are the conclusions valid and/or viable? Are they presented in a way that is meaningful to science educators?
5.	Craftsmanship/Communication	Does the paper demonstrate clarity, coherence, insightfulness, and incisiveness in communication? Does the paper advance a(n) central idea(s) or theme(s)?
6.	Creativity	Does the study break new ground? Does it involve risk-taking? Does it invite criticism?

NARST Outstanding Master's Research Award Committee (cont.)

RATING SHEET

RESEARCH ID _____

RATERS ID _____

RESEARCH TITLE _____

1 Low ----- 10 High

_____ 1. Significance of the Study

_____ 2. Conceptual/Theoretical

_____ 3. Research Approach

_____ 4. Conclusions

_____ 5. Craftsmanship/Communication

_____ 6. Creativity

_____ TOTAL

Please send rating sheets back by November 22nd to:

Name, address, e-mail and fax of Chair

NARST Outstanding Master's Research Award Committee (cont.)

Applicant Letter #2: Congratulations Finalist

Name and address of applicant

Dear _____:

Thank you for your participation in the award process for the Outstanding Master's Thesis from National Association for Research in Science Teaching. We are pleased to inform you that your thesis is a finalist.

Please send ten UNBOUND copies of your entire thesis to the following address. I prefer that you use double-sided photocopying to reduce costs for copying and postage.

Send to:

Name, address, e-mail and fax of Chair

We must receive your thesis by January 8th. Theses received after this date will not be considered for the award.

As soon as you receive this message, please SEND A REPLY to me confirming that you have received this message and that you intend to send copies of your thesis for the review process.

Again, thank you and congratulations! Please feel free to contact me via e-mail or phone should you have questions or concerns. We look forward to hearing from you soon.

Sincerely,

Name and address of Chair

NARST Committee for Outstanding Master's Thesis

Applicant Letter #3: Notification of Review

Name and address of applicant:

Dear _____:

Thank you for sending your full thesis for the Outstanding Master's Thesis Award for the National Association for Research in Science Teaching. A copy of your thesis plus the theses of the other two finalists has been sent to the nine members of the Outstanding Master's Thesis Award Committee. We expect to have our decision about a month before the NARST annual meeting in April.

Thanks again!

Sincerely,

Name of Chair

NARST Outstanding Master's Research Award Committee (cont.)

Committee Letter #2 :Entire thesis enclosed

Name and address of receiver

Dear _____:

We have reached the final phase of the Outstanding Master's Thesis Award. Enclosed are the full theses from each of the three finalists with one ranking sheet. Please rank them 1st, 2nd, and 3rd and send your results to me by February 15, XXXX. I would prefer receiving your ratings by e-mail or Fax to expedite the process.

Name, address, fax and e-mail of Chair

You do not need to return the theses, but please hold on to them in case of a tie. I will send you an e-mail with the results. Thanks again for your time and effort!

Sincerely,

Chair

Full Thesis RANKING SHEET

RATER: _____

Please rank the following theses 1st, 2nd and 3rd in the space provided.

INSERT RESEARCH TITLES 1-X

Comments:

Please send your results back by February 19, XXXX to:
Name, address, fax and e-mail of Committee Chair

NARST Outstanding Master's Research Award Committee (cont.)

Application Letter #4: Regrets

Name and address of applicant

Dear _____:

Thank you for your participation in the National Association for Research in Science Teaching Outstanding Master's Research Award. We are sorry to inform you that your thesis did not receive the award. We appreciate your participation and wish you good luck in future endeavors.

Sincerely,
Name of Chair

Committee Letter #3: Results

Name and address of receiver

Dear _____:

These are the results of our committees deliberations:

1st and Award recipient,
TITLE

The committee will be meeting during the NARST Annual Meeting on (day, date, time and location). Coffee and rolls will be available. As a number of issues surfaced this year, I urge you to attend.

Thank you for your participation, hard work, and effort. I look forward to seeing you at the Annual Meeting!
Sincerely,

NARST Outstanding Master's Research Award Committee (cont.)

Correspondence Record

	Ratings Returned	Rankings Returned	Misc.				
Reviewer name							
Reviewer name							
Reviewer name							
Reviewer name							
Reviewer name							
Reviewer name							
Reviewer name							
Reviewer name							
Reviewer name							

Other NARST Committees

Policy Advisory Committee

Charge:

The Policy Advisory Committee conducts an annual review of the Bylaws and the structure and orientation of the Association, and reviews new activities or ventures of the Association.

Procedures:

The Chair of the Policy Advisory Committee sends the current version of the NARST Procedures Manual to Board Members for Review each July and makes revisions as needed by the October board meeting.

The Policy Advisory Committee develops new policies for the association as directed by the Board.

Financial Advisory Committee

Charge:

The Financial Advisory Committee reviews the annual budget prepared by the Executive Secretary, approves program expenses, approves publication costs and new ventures, offers advice and recommendations to the Board of Directors regarding all financial affairs of the Association, and arranges for an annual audit externally conducted audit of the financial accounts of the Association.

Procedures:

1. In September, Executive Secretary prepares a draft budget for the next year and sends it to the Chair of the Finance Committee.
2. Chair of the Finance Committee, reviews and discusses the draft budget with the Executive Secretary.
3. Chair of the Finance Committee asks the Executive Secretary to send a copy of the draft budget and previous year's budget and expenditures to members of the Finance Committee. Chair sends email informing members of the Finance Committee that the Executive Secretary is sending the budget information and describing the responsibility and procedures for reviewing the budget.
4. Executive Secretary arranges a conference call for members of the Finance Committee to review, revise, and approve budget.
5. If significant budget revisions are required, a revised budget is sent via email to members of the committee for review and final approval.
6. At the fall board meeting, the Chair of the Finance Committee submits and recommends the revised budget for approval by the Board of Directors.
7. Chair of the Finance Committee reviews financial reports from the Executive Secretary whenever submitted.
8. An annual audit of the Executive Secretary's financial records for the year are conducted and the report is presented at the spring meeting of the Executive Board. [Question: Should this be reviewed by the Finance Committee before submitting to the Executive Board? At present, it is reviewed by the Chair of the Finance Committee at the Board Meeting, but is not reviewed by the members of the Finance Committee.]

Timeline:

- September - Executive secretary prepares draft budget for next year, sends to Finance Committee, organizes conference call, and Finance Committee reviews, revises and approves budget for recommendation to Board of Directors.
- Fall Board meeting - Chair, Finance Committee, presents budget to Board of Directors.

Publications Advisory Committee

Charge:

The Publication Advisory Committee recommends policy concerning the Association's publications. The Chair of the Publication Advisory Committee serves as a liaison to the JRST Editorial Board.

Procedures:

For NARST Monographs

1. The Committee periodically puts a call for monographs on the Listserv, web page and in NARST News.
2. All proposals are received by the Committee Chair. (In some cases, the Committee is contacted in advance of the proposal to 'test the feelings' of the Committee. This can save a lot of time and effort if the topic is one that has little chance of being approved.)
3. Proposals are reviewed by committee members and three additional NARST members.
4. Reviews are sent back to Chair (within one month) and the Chair synthesizes the comments of the reviewers.
5. The Chair recommends to the Board whether a monograph proposal should be accepted or not.
6. The Chair informs the committee and proposers of the Board action.

Program Committee

Charge:

The Program Committee assists the President-Elect and the Annual Meeting Coordinator in planning and conducting the Annual Meeting.

Procedures:

See attached Guidelines for Strand Coordinators.

Timeline:

Sample Letters and Documents:

Program Committee (cont.)
GUIDELINES FOR STRAND COORDINATORS
2002 NARST ANNUAL MEETING
New Orleans, Louisiana

The roles and responsibilities of Strand Coordinators are defined clearly in this document. Please take the time to read it carefully before starting your work. Please read the Call for Proposals before beginning the review process. The Call is posted to the web in late spring and usually appears in the June issue of NARST NEWS. (put website address).

GENERAL INFORMATION

1. Advisory Nature of Strands

Final program decisions will be based on the advice and opinions of the Strand Coordinators. Norse's current policy is that the Program Committee Chair (the NARST president-elect) still has ultimate responsibility for the program as a whole. Considerations such as how many meeting rooms are available at the conference hotel and how the rooms will be set up (e.g., for poster session or round tables) will influence how many proposals can be accepted altogether and how many of each session format will be possible. The Program Chair and Annual Meeting Coordinator are responsible for ensuring that equity is achieved, and appears to have been achieved, in terms of having common procedures and standards across strands. Consequently, the Strand Coordinators' recommendations about acceptance/rejection of proposals and session formats are advisory to the Chair and Coordinator, who will be responsible for checking all recommendations for consistency across strands and for ensuring that what is accepted will fit into the hotel space available. Also it will be important that all decisions about concerning acceptance or rejection are reported to paper proposes by the AMC and not by Strand Coordinators. Thus, please direct any questions or complaints regarding the status of a proposal to the AMC.

2. Limits on the Number of Presentations

Prior to the 1995 meeting, the Board approved some new rules concerning how many times a person may present. These are set out on page one of the Call for papers proposals. The new rules are inherently complex, but they have been worded in the Call for Proposals in a way that is as clear comprehensible as possible. If anyone contacts you for an interpretation of the rules, please don't hesitate to refer those inquiries to the Coordinator. The responsibility for ensuring that no individual exceeds the upper limit in terms of the number of presentations lies both with the Strand Coordinators and Annual Meeting Coordinator. The Strand Coordinators should base recommendations for acceptance/rejection on the quality of proposals only and not on the number of proposals submitted.

3. Equal Status of all Session Formats

In the past, sometimes a proposal that was late or deemed borderline in quality has been reassigned to a format other than what was requested as a 'consolation' prize. For example, a proposal that requested a single paper format was reassigned as a poster presentation. This downgraded the perceived value of the poster session format. In 1994, the Program Committee met in Anaheim and decided that various session formats should be considered different but of equal merit and status. Therefore proposals are NOT to be reassigned to a format other than what was requested as the first choice. Exception: Authors are specifically asked if they are willing to be reassigned as interactive poster sessions. You may reassign those who indicate a willingness to be reassigned to an interactive format. Interactive formats encourage a higher degree of interaction and also allow for more papers to be grouped in one session.

Program Committee (cont.)

4. Criteria to be Used in Reviewing Proposals

Strand Coordinators and Assessors should be guided in their reviews by the criteria set out in the call for proposals. First, it continues to be important that proposals are based on completed research, although the meaning of 'completed' is ambiguous and you will need to exercise your judgment here. Second, the call for papers identifies the following criteria:

- a. **Subject/Problem.** Is there a clear focus, rationale, model, theory, or philosophy upon which the proposal is based?
 - b. **Design or Procedure.** Is the methodology, procedure, design, or organization appropriate?
 - c. **Data Analyses and Findings.** Do the syntheses of ideas or data analyses and findings appear to be appropriate and complete?
 - d. **Contribution.** Do the conclusions contribute valuable insights into the teaching/learning of science?
 - e. **General Interest.** Does the presentation promise to be of general interest to NARST members?
- Finally, it is important for multiple paper proposals that the individual papers comprise a cohesive and integrated set of consistent, high quality.

5. Invited Strand Sessions

Each Strand Coordinator may recommend one invited strand session (e.g., speaker, symposium). These sessions do not go through the normal review process. Suggestions for invited sessions are advisory to the Chair and Coordinator, who are responsible for the overall balance of the annual meeting. You are encouraged to assemble a session and invite participants. Please make it clear to participants, however, that the session is not confirmed at this time. These special sessions will be scheduled at the same time as concurrent sessions. A cover sheet, brief description, and an abstract are required for each of these sessions. These special sessions must be clearly marked and should not have a proposal number. Please confirm your plans with the Annual Meeting Coordinator.

STEPS IN PROCESSING PROPOSALS 2002 NARST ANNUAL MEETING New Orleans, Louisiana Sunday, April 7 -Wednesday, April 10

1. Redirecting Proposals and Checking for Proper Submission

Check whether you have received any proposal that are more appropriate in another strand fits another strand much better than yours - please notify the ACM. In addition, you can check for abnormalities in the submission process. For instance, if someone submits a proposal as a symposium yet the abstract includes many paper titles, we will contact the person submitting the proposal and clarify the formats.

2. Checking Completeness and Acknowledging Receipt of Proposals

For the new electronic submission format the AMC has completed a check on the completeness of the proposals in terms of the completed forms, abstract, session selection, synopsis, etc. If an essential item in a proposal is missing, please inform the AMC. After both the AMC and Strand Coordinators agree that the proposals are complete. This year the AMC will e-mail confirmation of receipt of complete proposals.

Program Committee (cont.)

3. Selecting Assessors

Every proposal should be evaluated by three Assessors (two is the absolute minimum). All Assessors will be chosen by you and should be NARST members. For each proposal, an Assessor should be sent (or given access to):

- the abstract and synopsis with identification code
- a cover letter (email) which clearly indicates the date the Assessors' ratings should be sent to you along with your address, email, and fax number (enclosed)
- a copy of the assessor rating sheet for each proposal reviewed (enclosed)
- a copy of the assessor summary rating sheet (enclosed)

As a Strand Coordinator, you should act as an Assessor yourself only when a tiebreaker is needed, when one of your Assessors doesn't respond in time, or when a proposal arrives late.

Although approximately 20-30% of proposals will come from overseas, most Strand Coordinators and nearly everyone assessing proposals reside in North America. Consequently, it would be highly desirable if you were able to select some overseas members as Assessors. You can send materials electronically, so this should not be a problem. Sending out a request for assessors over the NARST listserv is one way to recruit assessors. Assessors need to return only the completed Assessor Rating Sheets and Assessor Summary Rating Sheet to you. **Monday, October 22, 2001** has been identified as the target date for returning these materials to you.

4. Resolving Disputes and Conflicts of Interest

Strand Coordinators should try to resolve disputes (e.g., opposing opinions from the three Assessors) and send us a definite recommendation about accepting or rejecting each proposal. Hopefully, if Assessors disagree, the Strand Coordinator's own judgment will be used to reach a decision. However, should it prove impossible to reach a decision, the particular case should be marked clearly and sent to the AMC for resolution. Also a potential conflict of interest could arise where the Strand Coordinator is an author of a proposal. In such cases, proposals should be sent out to Assessors in the normal way. However, after these proposals have been looked at reviewed by Assessors, they should be marked clearly as involving a potential conflict of interest and sent for scrutiny by the AMC.

5. Sending Information Regarding Accepted Proposals to Coordinator (MONDAY, OCTOBER 29, 2001 Deadline)

For each strand, paper proposals rated by the Assessors and the Strand Coordinator as being of high quality among those submitted to the strand will be accepted by the Chair of the Program Committee without further checking or moderation (space permitting). The actual number of time slots allocated to your strand will be based on the total number of papers received, the number of papers received for each strand, and hotel availability. In cases where the proposals are rated by the Assessors and the Strand Coordinator as being of high quality, all that needs to be sent to the AMC is:

- a list of the accepted proposals including identification codes, authors, and abbreviated titles
- your recommendations about how to group proposals into sessions
- your recommendations for session titles for the grouped proposals

Program Committee (cont.)

An attachment called Rating Summary Sheet is provided that should be of help to you in reporting this information to the Coordinator. To save time, please send this **information BY FAX OR E-MAIL BY MONDAY, OCTOBER 29, 2001** (or earlier if possible). Clearly this represents a tight deadline for you, but it is vital that we receive information by this deadline so that we can include a draft version of the preliminary program that can be posted to the web in December and also included in the NARST News. We will need to go to press even if information is not received from some strands.

6. Recommending Groupings and Formats of Proposals (MONDAY, OCTOBER 29, 2001)

Although final decisions about how to put the program together will have to be made by the Chair and Coordinator, advice from Strand Coordinators about groupings and formats is essential since the Strand Coordinators will be much more familiar with the content of the proposals. To save time, please send this information **BY FAX OR E-MAIL BY Monday, October 29, 2001** (or earlier if possible).

7. Sending Summaries of Assessor's Comments to AMC

The **ONLY** summaries that you will need to send to the AMC for resolution are:

- those determined by Assessors and the Strand Coordinator to be either borderline proposals recommended for acceptance or proposals recommended for rejection
- those that could have a conflict of interest (e.g., authored by a Strand Coordinator)
- those for which the Strand Coordinator is seeking help in reaching a final decision about acceptance or rejection.

The material that should be sent for each proposal in this category includes:

- strand coordinator's recommendation for acceptance/rejection with comments
- **copies** of the **three assessors' reports**; you must include these for all proposals in this category regardless of how they were submitted. Please note that you are to send copies of the assessors' reports—you must maintain the originals since you will later send copies of the reviews to all first authors.

Please send these by **FAX or EMAIL** no later than **MONDAY, OCTOBER 29, 2001**.

8. Providing Names of Assessors

- Please send to the Coordinator a list of the names of the Assessors who provided assessments. Each Assessor will receive a letter of thanks from the president-elect and will be listed in the annual meeting program as an assessor. *It is also recommended that you send a letter of appreciation to each of your assessors.*

9. Summary of Deadlines in Proposal Review Process

Date	Tasks
September 15 (revised from August 15)	<ul style="list-style-type: none">• Proposals due to AMC
Late September	<ul style="list-style-type: none">• Strand Coordinators assist AMC in error checking proposals / database completed• Assessors assigned specific proposals for blind review access granted to web folders

Program Committee (cont.)

Mon., October 22	<ul style="list-style-type: none">• Assessors send completed proposal ratings and documentation to Strand Coordinators
Mon., October 29	<ul style="list-style-type: none">• Strand Coordinators send information about accepted proposals to AMC• Strand Coordinators e-mail or fax copies of assessor rating sheets for rejected, conflict of interest, borderline proposals• Strand Coordinators send Suggested Groupings to AMC with session titles assigned

Very important: Once the acceptance and rejection letters have been sent to authors by the AMC, the Strand Coordinators will be notified. **At this time, the Strand Coordinators will send the a summary of the reviews to the first authors.**

10. APPENDICES

Files That You May Find Useful:

(feel free to cut and paste into your correspondence with assessors)

1. Assessor's Letter Example
2. Assessor's Rating Sheet for NARST Proposals
3. Ratings Summary Sheet for NARST Proposals
4. Strand Coordinator's Recommended Groupings
5. Step-by-Step Groupings (guidelines)

Program Committee (cont.)

Assessor's Letter Example

Date

Dear (Assessor's name):

Thank you for agreeing to serve as an Assessor for NARST proposals submitted to *Strand 1-Learning: Students' Conceptions and Conceptual Change*. Your task is relatively straightforward; you are to provide a fair assessment of the proposals sent to you.

Attached you will find instructions for accessing proposals (#####) and copies of the Assessor's Rating Sheet for NARST Proposals. Please make copies of this Rating Sheet as needed in order to record your rating for each proposal on a separate sheet. Copies of the Rating Sheet will be sent to the first author of every proposal. Therefore, comments would be very useful and your name **should not** appear on the form. You will also find enclosed a copy of an Assessor's Rating Summary Sheet. This Summary Sheet will be used to record your overall recommendation for each proposal you review. In many cases you may use this form as a guideline for sending your comments to me in the form of an e-mail (address@uni.edu) or alternatively, the completed form may be faxed to (#####).

Each proposal you access includes an abstract and a synopsis of the work. Begin your review of each proposal by writing the strand number, proposal identification code, and your Assessor's Code Number at the top of the Assessor's Rating Sheet. **Your Code Number is _____**. Next, read both the abstract and the synopsis. Then, record your rating of the proposal on the Assessor's Rating Sheet by circling either 1, 2, 3, 4, or 5 for each of the five assessment criteria and indicate whether the proposal should be definitely accepted, probably accepted, or rejected by checking one of the three boxes. Also, write any comments that provide further insight into your recommendation in the space provided on the Rating Sheet. Your comments are particularly important if your recommendation is to reject. After reviewing all proposals sent to you, record your overall recommendation for each proposal on the Assessor's Rating Summary Sheet.

Please send one Assessor's Rating for each proposal you reviewed to me on or before **October 22, 2001** at the address below. You may send this material by fax, or email attachment.

Sincerely,
(name)

Program Committee (cont.)

Step-by-Step Guide for Grouping Proposals and Assigning Session Titles

You will enter all of your sessions on the form titled "Strand Coordinator's Recommended Groupings." When completed, this form will convey all of the necessary information regarding the structure of your strand. The proposal ID number for all **accepted** proposals should appear on this form. Remember when making your assignments that we are attempting to honor the requested first choice for format. Papers should be reviewed on their merit. We are hoping to get away from the perception that some formats are of lesser importance by avoiding the occasional past practice of reassigning borderline papers to other formats (ex: reassigning a borderline single paper to a poster session). When you enter, please enter the session types in this order (detailed instructions for entering this information on the form follows):

- **Paper Sets Grouped by Committee** (you will group and assign session titles)
- **Round Tables** (several round table discussions going on concurrently in one room; thus, you will need to group by similarity of topic and then assign a session title)
- **Discussion Group** (group these as if they were single papers and assign a title)
- **Novel Format** (proposers were able to select a full time slot or a shorter time slot, so it will then be necessary to group these based on similarity of format and topic; titles will need to be assigned for those that are grouped)
- **Multiple Paper Sets** (the proposers will indicate a session title and grouping)
- **Symposia** (the proposers will indicate a session title; no grouping is necessary)
- **Poster Sessions** (you do not have to group or assign a session title; simply list them on the form and indicate the session format as Poster Session)
- **Interactive Poster Sessions** (you will group and assign session titles)

Instructions for Assigning Single Papers to Paper Sets Grouped by Committee:

1. Group the papers based on similarity of topic. Most time slots will be 90 minutes in length, so group four papers into a 90-minute time slot. Based on the time slots you are allocated for your strand, you may also need to group some into 60-minute time slots. These time slots may have 2 or 3 papers grouped together.
2. Based on the common theme that runs through the papers in a group, assign a session title that conveys that theme to the audience.
3. Enter all of the Paper Sets Grouped by Committee on the form titled "Strand Coordinator's Recommended Groupings and Session Titles." For each paper set, please enter the information as follows:
 - Enter **Paper Set by Committee** in the column "Session Format."
 - Skip the pres./discussant column unless you would like to recommend an assignment.
 - Enter the session title that you have assigned in the next column.
 - Enter all of the proposal ID numbers for the single papers grouped in this set in the next column.
 - In the last column, enter the time allocated as either 90 or 60 minutes.
 - Repeat until all Paper Sets Grouped by Committee have been entered.

Program Committee (cont.)

Instructions for Assigning Round Tables:

1. Group several round tables in one room based on similarity of topic and time requested. Assign 3 to 4 papers to a room. Scheduling may require that some proposers requesting 90 minutes be given 60 minutes; we will work together on this should it become necessary.
2. Based on the common theme that runs through the papers in a group, assign a session title that conveys that theme to the audience.
3. Following all of your Paper Sets Grouped by Committee, enter all of your Round Table sessions on the form. Please follow these instructions for entering:
 - Enter **Round Table** in the column "Session Format."
 - Skip the pres./discussant column unless you would like to recommend an assignment.
 - Enter the session title that you have assigned in the next column.
 - Enter all of the proposal ID numbers for the papers grouped in this set in the next column.
 - In the last column, enter the time allocated (either 60 or 90 minutes).
 - Repeat until all round table sessions have been entered.

Instructions for Assigning Discussion Groups:

1. **Group the proposals based on similarity of topic. Most time slots will be 90 minutes in length, so group four proposals into a 90-minute time slot. Based on the time slots you are allocated for your strand, you may also need to group some into 60-minute time slots. These time slots may have 2 or 3 proposals grouped together.**
2. Based on the common theme that runs through the papers in each discussion group, assign a title that conveys that theme to the audience.
3. Enter all of the discussion groups on the form. You should already have entered all of the paper sets grouped by committee and all of the round tables. Enter the information as follows:
 - Enter **Discussion Group** in the column "Session Format."
 - Skip the pres./discussant column unless you would like to recommend an assignment.
 - Enter the session title that you have assigned in the next column.
 - Enter all of the proposal ID numbers for the proposals grouped in this discussion group in the next column.
 - In the last column, enter the time allocated as either 60 or 90 minutes.
 - Repeat until all discussion group sessions have been entered.

Program Committee (cont.)

Instructions for Assigning Novel Formats:

1. Some of those proposing a novel format may have requested a full 60 or 90-minute time slot. Attempt to honor this if scheduling permits. Those requesting smaller time slots should be grouped according to similarity of format, topic, and time selected. For instance, you would group two novel formats requesting 45 minutes each into one 90-minute slot.
2. For those requesting and receiving a full time slot, the session title can be the same as the paper title. For those that are grouped, you will need to assign a session titles.
3. Enter all of the novel formats on the form following your discussion group entries. Please use these guidelines:
 - Enter **Novel Format** in the column "Session Format."
 - Skip the pres./discussant column unless you would like to recommend an assignment.
 - Enter the session title in the next column.
 - Enter all of the proposal ID numbers for the proposals in this set in the next column.
 - In the last column, enter the time allocated as either 60 or 90 minutes.
 - Repeat until all novel format sessions have been entered.

Instructions for Entering Multiple Paper Sets:

Obviously, you do not need to "assign" papers to a group. In addition, the proposer of each multiple paper set should have indicated a session title. We are requesting, however, that this information be entered on the form to provide us with an overall representation of your strand. Enter the information as follows:

- Enter **Multiple Paper Set (MP Set)** in the first column.
- Enter the pres./discussant if one was requested by the MP Set proposers. If one was not requested, you may skip this unless you would like to recommend an assignment.
- Enter the session title.
- Enter all of the proposal ID numbers for the papers in this set (ex: if there are four papers in MP Set with the proposal number 04-12, they will be 04-12.1, 04-12.2, 04-12.3, 04-12.4).
- In the last column, enter the time allocated as either 60 or 90 minutes (most will have requested 90 minutes, and this will usually be the allocated time, as well).
- Repeat until all MP Set sessions have been entered.

Program Committee (cont.)

Instructions for Entering Symposia:

There are no groupings to be assigned for this format type. Also, the session title will be the same as the paper title for this format (Note: if someone has requested "symposium" yet has sent in a proposal that has multiple papers, this will need to be reclassified as a multiple paper set. Please notify us if this happens.). Enter the information as follows:

- Enter **Symposium** in the first column.
- Enter the pres./discussant if one was requested.
- Enter the session title—this should be the same as the paper title.
- Enter the proposal ID number for the symposium.
- In the last column, enter the time allocated as either 60 or 90 minutes.
- Repeat until all symposia sessions have been entered.

Instructions for Entering Poster Sessions:

You will simply enter **Poster Session** in column one. You may skip columns two and three. You can enter multiple ID numbers in column four (as many as you can fit; in other words, each poster presentation does not need its own row). Skip the time allocated column. Repeat this for subsequent rows until you have entered all of the poster session ID numbers.

Instructions for Assigning Interactive Poster Sessions:

1. If you have enough interactives to make multiple sessions, group the papers based on similarity of topic. Most time slots will be 90 minutes in length, so group six to eight papers into a 90-minute time slot. You may also need to group some into 60-minute time slots. These time slots may have 4-5 papers grouped together.
2. Based on the common theme that runs through the papers in a group, assign a session title that conveys that theme to the audience. This may need to be very broad since there may be a great deal of diversity among papers.
3. Enter all of the Interactive Poster Sessions on the form titled "Strand Coordinator's Recommended Groupings and Session Titles." For each interactive poster session, please enter the information as follows:
 - Enter **Interactive Poster Session** in the column "Session Format."
 - Skip the pres./discussant column unless you would like to recommend an assignment.
 - Enter the session title that you have assigned in the next column.
 - Enter all of the proposal ID numbers for the single papers grouped in this set in the next column.
 - In the last column, enter the time allocated as either 90 or 60 minutes.
 - Repeat until all Interactive Poster Sessions have been entered.

Research Committee

Charge:

The Research Committee advises the Association on research matters.

Research Committee Activities:

1. The evaluation and selection of proposals for NARST Pre-Conference Workshops;
2. The evaluation and selection of proposals for the NARST sessions at NSTA;
3. Membership on the NSTA Research Committee;
4. Revision of research areas including in NARST Membership form;
5. The support of commissioned papers on timely and important research topics;
6. New ideas for increasing the visibility of NARST research.

Procedures and Timeline:

1. The call for pre-conference workshops goes out around 1 September for the following Spring meeting. Research Committee members review proposals and return results in October.
2. The call for NARST sessions at NSTA goes out in the Spring for the NSTA Annual Meeting the following Spring. Research Committee members review proposals and return results around 1 April.
3. The Chair of the Research Committee is recommended by the NARST liaison to NSTA (usually one of the Presidential team) to serve as a member of the NSTA Research Committee.
4. Categories of research interest for the membership form are reviewed and updated by Research Committee members every few years.
5. On a regular basis, research papers are commissioned as one means of disseminating NARST-related research to wider and more varied audiences.
6. Research Committee regularly reviews new mechanisms of producing press releases, developing web pages, sponsoring workshops or other events related to the increased visibility and understanding of NARST-related research.

Election Committee

Charge:

The Election Committee conducts the election of Association officers.

Procedures:

NARST Officers

1. Election committee meets at the Annual Meeting and begins the process of identifying possible candidates for President and the Board of Directors.
2. A Notice is placed in the NARST News and listserv by the Election Committee Chair encouraging voting members to bring names of possible candidates for president and the board of directors to the attention of the members of the election committee.
3. Election Committee members create an ordered list of 6-8 individual members who could serve NARST well as President-elect. Candidates for President-elect must have completed a term on the NARST Board. Care is taken to represent the diversity of NARST members in the nominations process. The Chair of the Election Committee contacts individuals so identified in order of priority to learn of their willingness to stand for election. At the time of initial contact, details of the appointment, including the need to keep travel dates open for attending the meeting of the board directly prior to the annual meeting, are provided. When two individuals have agreed to stand for election, no further contacts are made.
4. Election Committee members agree on a process to create an ordered list of 10-12 individuals members who could serve NARST well as members of the Board of Directors. Candidates for the Board of Directors will have demonstrated service to NARST through strong performance on NARST committees, as strand coordinators, or in other positions of service to the organization. Care is taken to represent the diversity of NARST members in the nominations process. The Chair of the Election Committee contacts individuals so identified in order of priority to learn of their willingness to stand for election. At the time of initial contact, details of the appointment, including the need to keep travel dates open for attending the meeting of the board directly prior to the annual meeting, are provided. When six individuals have agreed to stand for election, no further contacts are made.
5. The Election Committee Chair presents the slate of officers to the Board of Directors at the October board meeting.
6. The Chair contacts the nominees to request a candidate statement for the ballot. The Executive Secretary provides examples from previous elections and receives all candidate statements. The Executive Secretary prepares a ballot with candidate statements and sends to all members at least 3 months prior to the annual meeting.
7. Ballots are received and counted by the Executive Secretary no less than 2 months prior to the annual meeting. Election is by a plurality of votes.
8. The Executive Secretary informs the President of the results of the election, and the President informs all elected and defeated candidates of the outcome of the election.

NSTA Research Director

During years when NSTA is electing a new Research Division Director, the NARST Election Committee also nominates 1-2 NARST members to the NSTA Nominations Committee to stand for election as NSTA Research Director (historically this person also sits on the NARST Board in ex officio status). The Chair sends a call for nominations to the membership via the listserv and also requests nominations from the Election Committee. The Election Committee votes on the nominees. The Chair of the NARST Election Committee sends the final nominees to the chair of the NSTA Nominations Committee by mid-

Election Committee (cont.)

September. The NARST President writes a letter of support for the nominee(s) before the Oct. 1 NSTA nominations deadline.

Timeline:

- Annual Meeting The Election Committee begins deliberations on composing a slate of candidates.
- June NARST News carries a notice to voting members that they are encouraged to bring names of possible candidates for president and the board of directors to the attention of the members of the Election Committee.
- Election Committee finalizes ordered lists for President-elect and Board members. The Chair of the Election Committee begins to call nominees to ask them to serve.
- (September) Election Committee conducts nominations for NSTA Research Division Director during election years.
- October Slate of Officers reviewed by Board of Directors.
- 30 October Chair notifies candidates and asks for candidate statements. Chair sends list of duties and reminds candidates to schedule their travel to the annual meeting around the potential of board meetings pre and post annual meeting.
- 15 November Candidate statements due to Executive Secretary
- 15 December Ballot prepared by Executive Secretary and checked by Chair of Election Committee.
- 15 January Ballots mailed by Executive Secretary to Voting Members.
- 15 February Ballots due. Executive Secretary counts ballots and informs President of results.
- 25 February President informs successful candidates of their duties, including attendance at the first and second meetings of the Board of Directors at the Annual Meeting. President also informs unsuccessful candidates.

Election Committee (cont.)

Letter #1: Offer to be on the slate for the Board of Directors

Name and address of candidate

Dear,

On behalf of the elections committee, I would like to invite you to be considered as a candidate for the NARST Board of Directors commencing at the annual meeting in XXXX.

There will be six candidates and three persons will be elected to the Board.

Membership of the Board requires attendance at three Board meetings – one prior to the annual meeting, one following the annual meeting and one in October. Expenses are provided for the October meeting only. Members of the Board of Directors chair committees and take a leadership role in the Association.

Thank you for your consideration. I look forward to hearing from you at your earliest convenience.

Chair, Elections Committee

Letter #2: Sent to candidates by Past President after the October board meeting

Name and address of candidate

Dear (Board of Directors Candidate):

At its October meeting, the NARST Board of Directors approved the slate of officers proposed by the Election Committee. Now it is official - you are a candidate for the NARST Board of Directors.

As a candidate, you have the opportunity to place a statement of about 250 words in the ballot that will help NARST members make informed choices in the election. I have attached a copy of last year's statements for your perusal. The Executive Secretary (include email address) should receive an electronic version of your statement no later than 15 November.

The April 20XX Board Meeting has been scheduled for XXX and XXX. If elected, you will be expected to attend these meetings, so please plan accordingly.

The Board also meets once in October; that meeting is tentatively scheduled for XXX. The attached list of Board Member responsibilities should help you understand the expectations, should you be elected.

Thanks again for agreeing to stand for election.

Sincerely,
Chair, Election Committee

Enclosure: Board Member Responsibilities

Election Committee (cont.)

Board Member Responsibilities

1. Attend and participate in board meetings
 - Attend entire board meeting—Fall (a weekend in October) and Spring (two sessions, one prior to the Annual meeting and one following the Annual meeting). NOTE: New board members are expected to attend the board meeting prior to the Annual Meeting, although they do not have voting rights until the board meeting following the Annual Meeting.
 - *Confidentiality of Board Members:* At times the board will go into closed sessions. It is critical that the substance of these sessions be kept confidential.
 - Take part in conference calls
 - Respond to email conferences and votes
 - Attend NARST Awards Luncheon, Business Meeting, and Past Presidents Reception at the Annual Meeting

2. Chair Committees
 - Chair 1 or more NARST Standing Committees
 - Set agendas for and oversee committee meetings at Annual Meeting
 - Meet with committee via email as needed throughout the year
 - Delegate committee work to members
 - Ensure that committee work is completed and deadlines met
 - Keep committee members informed of meetings, board decisions, etc.
 - Write committee reports for fall and spring board meeting books
 - Propose discussion items and motions based on committee meetings at the board meeting

3. Ad hoc Committee
 - Chair or serve on ad hoc committees as requested by the president (examples include JRST editor search committee; Executive Secretary search committee)

4. Represent NARST
 - Serve as liaison between NARST members and board
 - Represent NARST at other professional meetings
 - Seek ways to further the interests of the association

Election Committee (cont.)

Letter #3: Sent to elected board members by President

Dear "new board member",

As the President of NARST, it is my pleasure to inform you that the election results have been tallied and you have been elected as a member of the Executive Board for a period of three years (Annual Meeting, XXXX- Annual Meeting XXXX). Congratulations on such a deserving accomplishment!

Your Board member responsibilities are outlined in the attached statement. In terms of this year's Annual Meeting, your responsibilities are as follows:

1. Attend the first Board meeting on XXXX at XXXX (dinner provided). During this meeting your role will be as guest and observer. You are welcome to participate in the discussion, but may not yet make, second, or vote on motions.
2. Attend committee meetings for any committee(s) you are assigned to chair. The outgoing chair will conduct the meeting. President-elect XXXX will correspond with you about potential committee assignments prior to the meeting.
3. Attend NARST Awards Luncheon (seated at one of the reserved tables), Business Meeting, and Past Presidents Reception.
4. Attend the second Board meeting on XXXX from XXXX (breakfast and lunch provided). You will have full voting rights at this meeting and will be asked to present a brief summary from your committee meetings.

As you know, we try to keep the election results reasonably confidential until the meeting. I have also attached the NARST mission statement, bylaws, and current procedures manual for your information.

Congratulations again, and see you in St. Louis!

Sincerely,
NARST President

Attached: Board Member Responsibilities
NARST Mission Statement
NARST Bylaws
NARST Procedures Manual

Election Committee (cont.)

Letter #4: Sent by President to unsuccessful candidates to the board:

Dear "name"

The NARST election results have been tallied and I am very sorry to inform you that your nomination to the Executive Board has not been successful.

As President of NARST, I sincerely thank you on behalf of the board and the membership for taking the time, effort, and commitment to be a candidate.

I look forward to seeing you in St. Louis. Best wishes for continued success in your science education research, teaching, and service efforts.

Sincerely,

President

Election Committee (cont.)

Letter #5: Offer to be on the slate for President-elect

Name and address of applicant

Dear,

On behalf of the Elections Committee, I would like to invite you to be considered as a candidate for the NARST President-Elect commencing at the annual meeting in XXXX.

There will be two candidates and one person will be elected.

The Elections Committee believe that you would be an ideal candidate for this position.

Thank you for your consideration. I look forward to hearing from you at your earliest convenience.

Chair, Elections Committee

Letter #6: Approval to be on the slate for President-elect

Name and address of applicant

Dear (Presidential Candidate):

At its October meeting, the NARST Board of Directors approved the slate of officers proposed by the Election Committee. Now it is official - you are a candidate for the NARST President.

As a presidential candidate, you have the opportunity to place a statement in the ballot that will help NARST members make informed choices in the election. I have attached a copy of last year's statements for your perusal. The Executive Secretary (give email address), should receive hard and disk copies of the text of your statement no later than 15 November.

The April 20XX Board Meeting has been scheduled for XXX and XXX. If elected, you will be expected to attend these meetings, so please plan accordingly.

Thanks again for agreeing to stand for election.

Sincerely,

Name

Chair, Election Committee

International Committee

Charge:

The International Committee is responsible for projects focusing on international science education research and meetings.

Procedures:

The Chair of the International Committee or a representative from the committee serves as NARST's representative to the International Council of Associations of Science Education (ICASE).

The International Committee hosts a symposium at each Annual Meeting.

Time Line and Due Dates:

Documents and Sample Letters:

Equity Committee

Charge:

The Equity Committee is responsible for providing leadership and guidance to the association on issues of equity, including but not limited to gender, ethnicity, socioeconomic status, disabling conditions, sexual orientations, language and religion.

Procedures:

- 1) Compile data, communicate results, and suggest recommendations to the Board related to equity in all areas of the organization.
- 2) Recommend or sponsor strand coordinators, reviewers, and keynote speakers for the annual meeting.
- 3) Promote the publication of a periodic review of research on equity issues and related policy or conceptual papers.
- 4) Facilitate discussions among members about the organization's role in promoting equity within and outside the organization.
- 5) Contribute ideas related to equity issues for programmatic-and publication-related venues of the organization.
- 6) Promote research dealing with equity for all, especially under represented populations.

Timeline:

Most of the business of the Equity Committee is conducted at the annual meetings, with follow-up at Board meetings, and then by email as the need arises.

Documents and Sample Letters:

Membership Committee

Charge:

The Membership Committee recruits members to NARST and ensures that the organization is responsive to the ongoing needs of the membership.

Procedures:

1. Compile data, communicate results, and suggest recommendations relating to the business of the association based on survey of the membership.
2. Recommend or sponsor sessions at the annual meeting.
3. Coordinate a mentor/mentee program.
4. Publicize the association and the annual conference.

Timeline:

<u>Annual conference-</u>	The Chair presents committee report to the Board. Committee members participate in membership sponsored sessions. The committee meets and debriefs last year's activities. The committee decides on the activities to implement the next year and delegates responsibilities.
<u>April –March -</u>	The Chair engages in ongoing communication with the committee members to support and monitor the planning and implementation of activities.
<u>October -</u>	The Chair communicates to the annual meeting coordinator the membership committee's requested sponsored sessions at the annual conference. The Chair prepares report for fall NARST Board Meeting.
<u>November –March</u>	The committee posts to the NARST Listserv multiple invitations for membership participation in the Mentor/Mentee program and pairs participants as guided by their research interests and other special interests. The Chair communicates with the annual meeting coordinator to ensure that a room with sufficient refreshments for the Mentor/Mentee orientation is scheduled. The Chair prepares report for the spring Board Meeting.

Membership Committee (cont.)

Documents and Sample Letters:

Mentor/Mentee Sample Invitation

Are you a new member to the NARST community? If you would like a mentor please sign up as a mentee.

Are you an experienced member in the NARST community? If you would like a mentee please sign up as a mentor.

Mentors and Mentees will get together in a special session at the annual conference.

To Sign Up:

Please mark all appropriate responses with an X:

(1) I would like to participate this year as a _____ Mentor _____ Mentee

(2) I would prefer to work with someone in one of the following research areas:

- _____ 1. Learning: Students' Conceptions and Conceptual Change
- _____ 2. Learning: Classroom Contexts and Learner Characteristics
- _____ 3. Teaching
- _____ 4. Teacher Education
 - _____ a. Preservice
 - _____ b. Inservice
- _____ 5. Curriculum, Evaluation, and Assessment
- _____ 6. Cultural, Social, and Gender Issues
- _____ 7. Educational Technology
- _____ 8. History, Philosophy, and Epistemology
- _____ 9. Informal Learning
- _____ 10. College Science Teaching

(3) Optional. If you have any additional special requests to consider in matching mentor/mentee pairs, please describe: _____.

Once you have completed this short questionnaire, click on the SEND button to return to XXXXX,

XXXXX, Chair, Membership Committee

Presidential Team Duties

President-elect Duties

MONTH	DUTY
May	<ul style="list-style-type: none"> • Work with Program Committee on finalizing conference theme • Finalize call for proposals with Annual Meeting Coordinator (AMC)
August	<ul style="list-style-type: none"> • Invite speakers for conference general sessions
September	<ul style="list-style-type: none"> • Write President-elect report for Fall Board Meeting • Prepare report of the annual meeting with AMC for Fall Board Meeting
October Early	<ul style="list-style-type: none"> • Strand Coordinators send program information to AMC (President-elect can do final check of accepts/rejects) • Send AMC suggestions for program and special sessions • Work with AMC to finalize preliminary program
November Early	<ul style="list-style-type: none"> • Send thank you letters to Strand Coordinators and their dept heads (as requested): Ask for suggestions for new Strand Coordinators • Obtain advertisers for conference (Book publishers, etc.)
December	
January	<ul style="list-style-type: none"> • Invite Kluwer to participate in Past-presidents Reception
February Early	<ul style="list-style-type: none"> • Working with committee chairs and executive secretary, compile list of members to be placed on committees; e-mail individuals on list to confirm interest in specific committees • Think about ad-hoc committees • Select new Strand Coordinators
Late	<ul style="list-style-type: none"> • Re-contact speakers for conference general session; ensure they're coming and notify them of their session. Ask about av needs and tell AMC. • Send out committee members and Strand Coordinators list to Board for a vote. • Prepare President-elect and program committee reports for Spring Board Meeting

President-elect Duties (cont.)

MONTH	DUTY
March Early	<ul style="list-style-type: none">• Send letters about Past-presidents Reception @ NARST to past presidents, past executive directors, distinguished contribution to research recipients, and past journal editors• Ask Strand Coordinators to write summary for their strand, post it on web before conference, and write report for newsletter• Prepare announcements for listserv net to highlight conference themes, etc.• Send letters to new committee members and Strand Coordinators notifying them of approval and of committee meeting times at the conference• Prepare agenda for 2nd board meeting
Late	<ul style="list-style-type: none">• Prepare introductions for the various general session speakers at the Annual Meeting and introduction of President at Awards Lunch and at Past-presidents reception
At Annual Meeting	<ul style="list-style-type: none">• Prepare brief speech for end of awards banquet• Visit all committee meetings• Conduct 2nd board meeting

President Duties

- Represent NARST on the board of an affiliate as agreed to by Presidential team.
- Notify award recipients of their awards (committee chairs notify runners up).
- Notify newly elected board members of their election and responsibilities (include bylaws, procedures manual).
- Send letters of thanks to all outgoing committee members and strand coordinators.
- Preside over board meetings during presidential term.
- Conduct board business electronically as needed.
- Prepare bi-annual presidential report.
- Write president's column for NARST News.
- Prepare Awards Luncheon agenda and speech.
- Preside over Awards Luncheon.
- Prepare agenda for and preside over business meeting.
- Communicate with Executive Secretary on organizational business matters.
- Coordinate searches as needed (e.g., JRST editors, Executive Secretary).
- Create ad hoc committees as needed.
- Charge standing committees to carry out specific tasks.
- Send letters of thanks to outgoing board members.

Past President Duties

- Represent NARST on the board of an affiliate as agreed to by Presidential team.
- Chair the Election Committee
- Chair the Policy Advisory Committee and update Procedures Manual.
- Prepare bi-annual reports to the Board.
- Consult with Presidential Team on issues as they arise
- Participate in all board discussions and decisions, electronically and at Board meetings.
- Serve on search committees for NARST positions as needed.

Appointments to Other NARST Positions

JRST Editor

Sample Position Announcement New JRST Editor Needed for 2000-2005

The National Association for Research in Science Teaching (NARST) is searching for a new Editor of the *Journal of Research in Science Teaching* for 2000-2005. Although Andy Anderson and Jim Gallagher have just begun their three year appointment as co-editors of JRST, the process of identifying a new Editor must now begin. We intend that the new Editor will serve for five years as in previous editorships prior to Andy and Jim's appointment. To make the transition smooth and to identify the best qualified applicants, the search for a new JRST Editor is now underway.

The position provides the person chosen, and the host institution, international visibility in the area of science education. The JRST Editor provides the world's science educators with the organisation's broad views and goals as illustrated by published manuscripts. By providing editorials, the Journal can and should take on leadership roles in science education and be in a position to influence policy and practice.

Upon approval by the NARST Board of Directors, the new JRST Editor for 2000-2005 will work with Professors Anderson and Gallagher for the second half of the calendar year 2000. Full responsibilities are scheduled to begin in 2001 and continue for a five-year term, including a six month hand over period in the first half of 2005 for the next appointee(s) to become acquainted with the position and its opportunities.

RESPONSIBILITIES OF THE POSITION

High Levels of Organisation and Management

- Show evidence of being able to administer a large flow of manuscripts each year and to process them in an effective manner.

Vision

- Indicate very clearly the vision that they have not only for ensuring that JRST continues to be a premier journal, but also for taking the organisation into the new millennium through innovative and creative leadership. This vision should be consistent with the published vision of NARST.
- Be committed to a diversity of styles of research and ensure that the review process remains international so as to reflect multiple perspectives and diversity.

Personal Qualifications

- Be an active member of NARST with high visibility within the organisation such as being a regularly attendee at conferences.
- Be a respected scholar in science education, have a strong research record of publications in high-quality journals, and possess excellent writing and editing skills.
- Have a strong commitment to maintaining the high quality of manuscripts that are published in the Journal.

Responsibilities

- Be responsible for producing 10 issues of JRST per year.
- Attend Board meetings at the NARST annual meeting and in the Fall.

INSTITUTIONAL COMMITMENTS

- Office space for accommodating journal production activities.
- Computers to process the journal including electronic mail.

NARST COMMITMENTS

- Financial support of a maximum of \$24000 per annum to cover office expenses, including one quarter-time secretary, postage, faxes and mail (international priority mail for overseas).
- Provide financial support to attend the NARST Board meeting in the Fall (this does not include the annual meeting)
- Reasonable efforts by the NARST Board to facilitate the editor's responsibilities, as directed by the Board from time to time and consistent with previous expectations.

APPLICATIONS

Interested persons are encouraged to discuss the nature of this position informally with the chairs of the search committee --Norm Lederman (lederman@ucs.orst.edu/Fax 1 541 737-1817/Phone 1 541 737-1819) and David Treagus (itreagus@info.curtin.edu.au/ Fax 61 8 9266 7924/Phone 61 8 9266 2503), the current and past journal editors, or members of the NARST Board.

Applicants should forward a letter describing the reasons for seeking the position and providing details related to the relevant criteria listed above. With the application, please provide evidence of institutional commitment, a curriculum vitae, and names of three persons who may serve as professional references. A letter of intention is due by September 1st, 1999 at which time a mailing address will be provided for submitting final submissions due by October, 1st, 1999.

Executive Secretary
Sample Search Announcement

NARST Executive Secretary Search

NARST seeks to appoint a new Executive Secretary, effective XXX, XXXX. The commitment for the Executive Secretary is five years, terminating at the end of the XXX board meeting of XXXX. The Executive Secretary position provides the person and the host institution with international visibility in the field of science education.

The Executive Secretary plays a pivotal role in the organization's activities and structure. The Executive Secretary provides a host of services for the organization including, but not limited to: 1) overseeing all monetary and contractual exchanges for the organization; 2) maintaining membership records and communications; 3) coordinating annual meeting pre- and on-site registration; 4) recording, maintaining and distributing reports and minutes for the executive board meetings; and 5) serving as ex-officio member on numerous NARST committees.

The NARST budget provides funds to the office of Executive Secretary for supplies, printing, postage, and telephone expenses; 1/2 time clerical support; travel for the Executive Secretary to two yearly board meetings; and up to \$9000 in travel for graduate student travel to the annual meeting to work the registration table. NARST also provides a \$3000 start-up discretionary monies. The institution is expected to commit release time to the Executive Secretary, 1/2 time clerical support, and electronic mail and accounting systems support.

NOTE: In August, 2001 a new administrative structure was put in place for NARST Management which changed both the duties and the funding of the Executive Secretary. The previous two paragraphs may no longer apply.

All interested candidates should submit their names as soon as possible, but no later than XXXX to XXXX via email. Applicants will then prepare a letter of intent that will be submitted to the Executive Board for approval. Letters of intent will be due XXX and should address the following areas: 1) reasons for wanting to assume the position, 2) previous service to NARST, 3) experience in organizational management, 4) vision for NARST as an organization, 5) commitment to the position through the year XXXX, and 6) evidence of institutional support. The Board intends to approve the new Executive Secretary by XXXX.

We need your help in filling this critical position in the NARST organization. If you are interested, please contact XXXX immediately. If you know of an individual who would make a good Executive Secretary, please encourage him/her to apply.

Annual Meeting Coordinator

Sample Announcement: NARST Annual Meeting Coordinator Search

NARST seeks to appoint a new Annual Meeting Coordinator (AMC), effective March 15, XXX. The commitment for the AMC is 3 years (March XXX-April XXX), beginning with an apprenticeship during this year's Annual Meeting, having primary responsibility for the 20XX and 20XX Annual Meetings, and serving to mentor the next AMC for the 20XX Annual Meeting. The AMC position provides the person and the host institution with international visibility in the field of science education.

The AMC plays a pivotal role in the organization's activities and structure. The AMC's major responsibility is to work with the President-Elect to coordinate the annual meeting.

In particular, the roles of the AMC include:

- Communications with the President-Elect, President, and Executive Secretary concerning meeting preparations;
- Communications with a technology assistant who sets up and manages the databases and online information;
- Site visits to future meeting venues;
- Training and coordinating the activities of the strand coordinators;
- Notification of authors regarding the receipt of their coversheets and proposals; and regarding the acceptance/rejection status of their proposals
- Scheduling of the program;
- Coordinating events and the scheduling of rooms with the hotel;
- Compiling the call for proposals, preliminary program, and the final program and abstract book;
- Publication of final program and abstract book;
- Running a "problem-solving" booth at the meeting.

The NARST budget provides \$10,000 to the AMC for supplies, expenses, and release time (e.g., to hire a graduate teaching assistant or support summer salary). In addition, NARST pays for AMC travel to site visits and to the annual meeting. The institution is expected to commit release time and clerical support to the AMC. For the first year of the position, the AMC will have the assistance of a technology coordinator, who has had experience with the NARST databases and online submissions. In subsequent years, the AMC will have the option to move this position to his/her home institution, with financial support from NARST.

All interested candidates should submit an electronic letter of intent as soon as possible, but no later than XXX to XXXX. Letters of intent should address the following areas: 1) reasons for wanting to assume the position, 2) previous service to NARST, 3) experience in program organization, 4) commitment to the position through the year 2004, and 5) institutional support. The Board intends to approve the new AMC before the Annual Meeting so that the individual can serve as an apprentice to XXX, current AMC, during the meeting.

We need your help in filling this critical position in the NARST organization. If you are interested, please contact us immediately. If you know of an individual who would make a good AMC, please encourage him/her to apply.

NARST - 75th Anniversary
New Orleans, LA – 2002

Total regular attendances: 816

Preregistered: 618

Outside registration: 211

At conference in New Orleans:

433 regular members

230 students

78 non-members

24 non-member students

****Check with Cheryl on vendors/sponsors****

Peter Lang Publishing, Inc.

The National Academies

Taylor & Francis & Open University Press

Kluwer Academic Associates, Inc.

University of Toronto Press Inc.

Lawrence Erlbaum Associates, Inc.

Total NARST Membership

Reg. Members: 927

Student w/ JRST: 286

Student w/o JRST: 111

Emeritus: 48

Sustaining: 4

Emeritus w/ JRST: 22

927

Motion # 14: Osborne Second by Cobern to
approve 2002 NARS budget.
Passed unan. 12-0

Motion #15 Abell to adjourn
Scantlebury Second.
Vote 12-0 pass
unan.

Motion #10 Abell Adopt Affiliate group, etc. policy
 (see pg in sect 10 of Board book). Osborne
 second it.

Dis. -

Vote passed 12-0 unanimous

Motion #11) Abell 2nd by Rodriguez
 to approve Japan Soc.
 as Assoc. Group
 passed 12-0 unan.

Motion #12: Abell second by Mason to
~~adopt~~ approve policy for membership
 classes (sect 10.)
 Passed 12-0 unanimous

Exec. Sec

Rodriguez: 2 sig for handling funds. Osborne

Motion #13 By Scatlebury to support a
 Next AAAS Rep's travel to AAAS mtg.
 Second by McGinnis.
 Vote 12-0 unanimous.

Abell, Mason, Ebert-May, McGinnis, Lederman, Crawley, McMahon, Rodi, P.O.
4/5/02
Dagler (guest), Cobern, Smith (guest), Anderson (guest), Lynch, Richard (guest), Rennie
Osborne, Zandvliet, Tillotson, Czerwik Present Absent: Scantlebury, ~~Czerwik~~

Motion #1 Approve change in agenda.

Motion #2 ~~Rodriguez~~ to approve all past minutes
Abell to approve all past minutes

Motion #3 Rodriguez to table approval of ^{all} minutes
Second by Lynch.

Discussion concerning
Coburn call to question

for (2) Lynch, Rodriguez 7 ~~7~~ opposed
abstain Lederman

Motion #4: Approve ^{Fall} 2001 ~~mtg~~ min Abell, Clay (Mason), ~~Clay~~

Vote: Unanimous
8 in favor 2 abstentions (Rennie)
(Lederman)

~~Motion #~~

Motion #5: Motion Abell, Cobern Spring 2001
minutes done by D. Hawry

Discussion about the dated material and difficulty
of interpreting them. Osborne suggested list of
guests e-mailed

Vote: 8 pass Intro Lederman
Rodriguez

Motion #6: Abell to approve ^{October} ~~Fall~~ 2000 Hawry minutes.
Second by Cobern.

Many pointed out they were not present at
that mtg. Vote: 5 approve 0 opposed 4 abstention

Lederman - Past Pres. Report

Motion #7 5 in favor 6 opposed

2 abstentions (Rennie, Osborne)

Motion failed.

Motion #8

Rennie ask editors to pursue list of the people ^{get feedback} and NARST Board ~~provide feedback~~ on any objectionable people, and if we published.
Lynch. 2nd. JRST

Dis: Czerniak: ^{have editors} check on if reviewer pub. in JRST

~~10~~ Favor 0 opposed 2 abstentions

Motion #9

~~Abell~~

Mason motion to NARST Board

endorse ^{Abell proceeding w/ CEA and NSTA} NSTA handbook. Osborne 2nd it

Vote: by Earlbaw

~~10~~

Passed 12 in favor
unani.

**NARST EXECUTIVE SECRETARY'S REPORT
JOHN W. TILLOTSON**

National Association for Research in Science Teaching Annual Meeting
New Orleans, LA
April 10, 2002

Minutes of the NARST Spring 2002 Board Meeting (Session 1)

The minutes of the NARST Spring 2002 Board Meeting (Session 1) held on April 6, 2002 at the Hyatt Regency in New Orleans, LA were distributed to the Board. Once corrected and approved, Tillotson will send a summary version including the motions made and voted on to Zandvliet for posting on the NARST web site.

Updated NARST Membership Figures

As a result of numerous individuals renewing their membership or joining NARST for the first time at the conference, the overall NARST membership figures have been revised since the Board Meeting on April 6, 2002. The current 2002 NARST membership totals are as follows:

<u>Membership Category</u>	<u>Number</u>
Regular with <i>JRST</i>	927
Student with <i>JRST</i>	286
Student without <i>JRST</i>	111
Emeritus with <i>JRST</i>	22
Emeritus without <i>JRST</i>	48
Sustaining	4
TOTAL	1398

Updated NARST Conference Registration Information

Total 2002 NARST Annual Conference registrations: 816

Pre-registered participants: 618

On-site registrants: 211

Conference participants by membership category:

Regular Members	433
Student Members	230
Non-Members	78
Student Non-Members	24

NARST Business Meeting Report

The NARST Business Meeting was held on April 8, 2002 from 5-6 PM at the Hyatt Regency in New Orleans, LA at the annual meeting.

Tillotson reviewed the new organizational structure of NARST and explained the new roles of the Executive Secretary and the Administrative Assistant.

Tillotson noted that there are many people to thank for the success of the conference including Mason, Zandvliet and the entire Program Committee.

The NARST membership figures were reviewed and the efforts underway with Wiley Publishing to increase membership were shared with the participants.

Tillotson reviewed the NARST 2002 election results and announced the winners, and asked members to thank the unsuccessful candidates for their willingness to run in the election and to serve the NARST organization.

Tillotson reported on the financial status of the NARST organization and shared projected 2002 budget figures.

Zandvliet reviewed the NARST Annual Meeting statistics and the program review process. He also reported on the electronic services activities of NARST including ideas for making the entire paper review process more automated in the future.

NARST members at the Business Meeting raised the following issues:

1. The need for a web-based electronic voting procedure to overcome the mail problems faced by international members.
2. The fact that since NARST is a not-for-profit we should be careful in using the word "profit" to explain our surplus funds in the budget.
3. A concern over libraries at high education institutions dropping their *JRST* subscriptions was raised and discussed.
4. A request to lower the conference registration fee for international members was made given the extra cost of overseas travel for these members.
5. One person was concerned about the conflict in dates between the NARST and NSTA conferences in 2004.
6. There was a concern about the fact that there were no Presidents at NARST sessions this year and in some cases that was deemed problematic.
7. It was discussed as to whether or not NARST should consider expanding and/or lengthening the conference.
8. It was suggested that the NARST Awards Luncheon be moved to the last day of the conference after the final set of concurrent sessions as a culminating event and as a way of keeping attendance higher at the morning sessions that day.
9. A request was made for NARST to post the minutes of the board meetings and committee meetings on the NARST web site.
10. Some people noted the difficulty in locating meeting rooms at the Hyatt given that three floors were used instead of all rooms being located on a single floor. Zandvliet pointed out that the hotel would not accommodate our request to do this, but in future years it would be negotiated with the hotel in advance.

The NARST Business Meeting adjourned at 5:50 PM.

Corrections for 2003 NARST Conference Program

It was pointed out by John Staver that two of the names listed on the Emeritus list in the NARST Program have passed away and should be removed from next year's document. Paul DeHart Hurd and John Schaff are both deceased.

NARST Financial Management Issues

Tillotson consulted with former NARST Executive Secretary John Staver concerning the filing of I-990 tax forms for the organization in the past. Staver indicated that he used an external accountant to audit the NARST budgets and to file the tax forms given that he felt professional expertise was needed in this situation. He also felt the use of an external auditor would provide the NARST organization and the Executive Secretary with added protection from any financial mistakes that could impact NARST.

Criteria and Instructions for Ranking the Articles in an Issue of the Journal of Research in Science Teaching

Scan all articles in the issue you are judging before you begin the reading and rating process. Then rate all articles in the issue using the following criteria. After all articles are rated, review the ratings across articles to insure consistency and reliability. In reviewing the articles try and ignore any personal prejudices that you may have about the importance or significance of the theme of the article and judge the article using only the following criteria. You are strongly encouraged to contact other members in your group to discuss your ratings.

1. Significance of Problem or Issue (10 points)

How important or critical is the problem or issue being addressed by the author(s)? Timeliness, relevance and scope are all aspects of this concept. Marks for this criterion should, however, be awarded not so much on your judgement of its significance but on the case made by the author(s) for its significance.

2. Background (10 points)

How adequate is the presentation of related theory and relevant literature? Does this section of the paper cover the literature in the area in a comprehensive and clear manner, acknowledging the significance of salient research and arguing the case for the work that is to be introduced.

3. Approach (10 points)

How adequate and sound is the approach to the problem or issue? In a research article there should be a well-reasoned argument to for the design and the methods used for data analysis. In a position paper, the logic and nature of the argument should be carefully constructed and critically and thoughtfully argued.

4. Interpretation and Significance of Conclusions (10 points)

Are the conclusions based on a rigorous and systematic interpretation of the data and logical argument? In a position paper, do the arguments draw extensively on a wide-ranging body of literature to support the perspective developed. Are the implications and their importance recognised in a clear, thoughtful and cogent manner? Do they address relevant concerns in science education?

5. Potential Impact of the Outcomes or Positions (10 points)

What is the potential to influence thinking and practices in science education, the science education research community or both? Do the outcomes or positions have potential impact? Has that potential for impact been considered and discussed by the author(s)?

6. Uniqueness and originality (10 points)

How new or original are the approach and/ or ideas presented in the article? Does the article challenge existing thinking or practice in a thoughtful, critical and relevant manner. Could the article be considered to be ground-breaking?

7. Overall (10 points)

What is your general opinion of the quality of the article from a broad perspective? In arriving at such a judgement, you should ignore any views you hold about the content or the theme and simply consider the whole article, how well the research has been designed, conducted and reported.

Record your ratings for each article on a separate rating sheet along with the necessary descriptive information about the article. You should also include comments related to your overall rating.

Report of the “*Informal Science Education*” Ad Hoc Committee

Lynn D. Dierking, Institute for Learning Innovation
John H. Falk, Institute for Learning Innovation
Patricia Simmons, University of Missouri at St. Louis
Léonie Rennie, Curtin University of Technology
David Anderson, Queensland University of Technology
Kirsten Ellenbogen, King's College London
Eric Pyle, Western Virginia University
Angela Barton, University of Texas-Austin
Julie Thomas, Texas Tech University

April 2002

Introduction

In the spring of 1999, an ad hoc committee focused on Informal Science Education was established by the Board with the goal of exploring interest among NARST members for additional leadership by the NARST organization in the area of informal science learning research. A major task in 2000 was to survey NARST members about their perceptions of the NARST organization's positioning relative to out-of-school, informal science learning, including their interest in the NARST organization increasing their profile in this research area. A report detailing the findings of the survey and discussing its implications and recommendations for NARST was presented to the Board in September 2000. The Board and leadership of the NARST organization endorsed the findings and recommendations of the ad hoc committee, directing us to develop a plan for a strategic initiative in the area of Informal Science Education. The Ad Hoc Committee did so and developed the following goals for 2001-2002:

- 1) Play an advocacy role within the NARST science education community (educators, administrators, politicians and researchers) by more clearly identifying and describing the vast number of ways and places in which people of all ages learn science.
- 2) Work within the NARST organization and leadership to explore collaborative research initiatives and conference session opportunities.
- 3) Explore strategies for recruiting and retaining NARST members with specific research interests in this area.
- 4) Explore mechanisms to build and nurture a strong community of researchers in this area, with opportunities to work on collaborative research projects, discuss findings and issues and share their research findings with one another and the larger NARST science education community.

This report summarizes the progress of the 2001-2002 Ad Hoc Committee goals and presents our recommendations for future efforts in this area.

2001-2002 Committee Goals

At the 2001 annual meeting in St. Louis the committee organized our 2001-2002 activities and developed the following objectives and concrete action plan:

- 1) Develop a policy statement in the area of out-of-school (free-choice) science education research that can be used by the NARST organization to promote and advocate the importance of out-of-school science learning and the need for scholarly research in the area.
- 2) Explore the feasibility/need for facilitating more exchange within this community of researchers, by exploring various strategies such as the creation of a web-based discussion site or special site with information regarding research on such learning.
- 3) Facilitate discussions within the NARST organization and leadership to explore collaborative research initiatives and conference session opportunities.
- 4) Develop a membership development strategy to recruit and retain NARST members with specific research interests in this area.
- 5) Discuss the future of the ad-hoc committee to determine whether it is ultimately the best mechanism for organizing and implementing this strategic initiative.

At this point, we have an agreed upon definition for this arena of research, embedded within the draft policy statement. This policy statement clearly identifies and describes the variety of out-of-school environments in which science learning occurs, issues related to conducting research in the area and begins to lay out a potential research agenda for the field. Within this policy statement also are recommendations for building and facilitating this community of researchers, as well as recommendations for opportunities for collaborative research initiatives with other research areas in NARST. We have also been exploring an appropriate moniker for this area of research (e.g., out-of-school, free-choice, life-long, public understanding of science, etc.) with unanimous agreement that it should not be the current term: Informal Science Education.

Our plans through the 2002 Annual meeting include to:

- 1) expand and refine the policy statement;
- 2) initiate discussions within the NARST organization and leadership to explore collaborative research initiatives;
- 3) develop a membership development strategy to recruit and retain NARST members with specific research interests in this area; and,
- 4) recommend the best future mechanism for implementing this strategic initiative, including a discussion about the future of the ad-hoc committee.

Appendix A

Draft “*Informal Science Education*”

Policy Statement

“Informal Science Education” Ad Hoc Committee

Policy Statement

Defining the Domain

“Informal Learning” is the most commonly applied term for the science learning that occurs outside of the traditional, formal schooling realm (pre-college, university and advanced degrees). It has significant limitations because it artificially delimits efforts to describe the type of real world learning that humans engage in daily; learning that occurs across a broad spatial and temporal context, both inside and outside of schooling. As a growing number of researchers choose to try and understand how people come to learn about science, it has become increasingly apparent that such understanding must include more than just the experiences of schooling.

At the core of this effort to understand real world science learning is a firm belief that learning rarely, if ever, occurs and develops from a single experience. Rather, learning in general, and science learning in particular, is cumulative, emerging over time through myriad human experiences, including, but not limited to experiences in museums, schools, while watching television, reading newspapers and books, conversing with friends and family, and increasingly frequently, through interactions with the Internet. The experiences children and adults have in these various situations dynamically interact to influence the ways individuals construct scientific knowledge, attitudes, behaviors and understanding. In this view, learning is an organic, dynamic, never-ending, and quite holistic phenomenon of constructing personal meaning. This broad view of learning recognizes that much of what people come to know about the world, including the world of science content and process, derive from real world experiences within a diversity of appropriate physical and social contexts, motivated by an intrinsic desire to learn.

Historically much of the research on science learning outside of school has occurred within museum-like settings. Learning from museums, or other comparable educational institutions (zoos, aquariums, nature centers, etc.), actually represents a very nominal number of the situations in which this type of learning occurs. However, the growing body of research on learning in and from museum-like settings provides an important baseline of understanding about learning in such free-choice situations. Clearly lacking, though, are comparable studies of learning from film, radio, community-based organizations like scouts, and summer camps, home and friends, the work place, the Internet and a whole range of other real-world situations.

As the desire to investigate learning in these settings increases, the need for an enhanced theory of real world, lifelong learning becomes critical. The conceptual and methodological challenges engendered by this type of research have only begun to be understood. The National Association for Research in Science Teaching has an opportunity to play a significant role in fostering and advancing research into the long-term, cumulative nature of science learning; learning that is strongly socioculturally mediated and occurs across a wide range of physical contexts beyond

schooling. The result will be a more holistic, large-scale understanding of the entire learning process, both inside and outside of schooling environments.

Implicit in this thinking is a discussion of an appropriate moniker for this area of research. There are many possibilities, (e.g., out-of-school, free-choice, lifelong, public understanding of science, etc.) but there was unanimous agreement among members of the Ad Hoc Committee that it should not be the current term: "Informal Science Education." The Ad Hoc Committee is still considering the appropriate one, however, they do know that it needs to reflect the following: learning that is self-motivated, voluntary, and guided by the learner's needs and interests—learning that is engaged in throughout his or her life (Informal Learning Environments Newsletter, May/June, 1998; Daedalus, 1999; Teachers College Press, 2001; Falk & Dierking, in press).

Clearly there is a trend toward this type of research in the field, which NARST has participated in by establishing Strand 9, supporting the joint AERA/NARST session at the Year 2000 annual meeting and by publishing a paper set devoted to the topic in the Journal for Research in Science Teaching. However, it is the Ad Hoc Committee's feeling that the NARST organization could be doing more to support scholarship in this arena. In the past 5-10 years, interest in this area of research has grown tremendously. The American Educational Research Association now has an Informal Learning Environments Special Interest Group with a bi-yearly newsletter. In 1998 the journal Science Education initiated a permanent special section on Informal Science Education, due in great part to the success of a special issue devoted to that topic in 1997, Volume 81(6), and in 1998, the National Science Teachers Association published a policy statement on this type of learning, created a board position, and recently published a two-volume series on the topic. These are all important efforts, but the ad hoc committee still feels there is a leadership role that could be played by the NARST organization.

NARST has a potential opportunity to take a leadership role by supporting research in this area of out-of-school learning. By raising the profile of such research, the committee feels that NARST would demonstrate its understanding of the fundamental role that such learning plays in the lives of children and adults across the life span. By promoting a broader definition and framework for this type of learning and efforts to investigate its relationship to learning from schooling and work place environments, NARST has an opportunity to shape a larger vision for the 21st Century Learner that includes out-of-school (free-choice) learning.

Issues Related to Conducting Research in this Domain

In the past decade research in neuroscience has demonstrated that learning is strongly influenced by prior knowledge and experience, interest and motivations, all shaping the expectations that people have for a learning experience. Learning is also a cumulative process—it can take days, weeks, or even months for new experiences to be sufficiently integrated with prior knowledge before learning is measurable, let alone noticeable, even to the learner. New data also suggests that most learning has more to do with consolidation and reinforcement of previously understood ideas than with the creation of totally new knowledge structures. And neuroscience research also demonstrates the importance of motivation, interest and emotion in the learning process itself,

suggesting that when people are interested and curious about something, there is a high possibility that they will follow up on that feeling with action, resulting in meaningful learning.

To frame research to investigate such meaningful learning these aspects need to be considered:

- 1) Such learning is self-motivated, voluntary, and guided by learners' needs and interests, so certain aspects of learning are critical to investigate, e.g., the role of motivation, choice and control, interest and expectations in the learning process.
- 2) The physical setting in which such learning takes place is extremely important, so this learning needs to be investigated in authentic contexts.
- 3) Such learning is strongly socio-culturally mediated, so designs need to offer opportunities to explore social and cultural mediating factors including the role of conversations, social learning networks, cultural dimensions and the use of groups, rather than individuals, as the unit of analysis.
- 4) Learning is a cumulative process, involving connections and reinforcement between the variety of learning experiences a person encounters in their life: at home, during schooling and out in the community and work place. Designs need to offer opportunities to investigate all dimensions of learning and their connections in a variety of settings across a span of time which will allow us to understand how these experiences are used and connected to subsequent experiences longitudinally.
- 5) Learning is both a process and a product so we need to investigate the processes of learning, as well as the products of learning.
- 6) The very nature of such learning requires multiple, creative methodologies for assessing it in a variety of ways under a variety of circumstances. Thus, innovative research designs, methodologies and analyses are critical (e.g. conversation analysis, Constructivist tools such as concept mapping and Personal Meaning Mapping, social learning network analysis and hierarchical linear modeling).

Recommendations

The committee recommends several ways that the NARST organization could provide leadership in this area including:

- 1) Promote an awareness of the vast number of ways, ages and places in which a person learns science and the importance of conducting scholarly research in this arena;
- 2) Play an advocacy role by bringing to the educational community's (science educators in a variety of settings, administrators, politicians and researchers) attention the place and value of these settings;

- 3) Encourage the search for methodologies that are appropriate to this area of research and support their refinement and validation;
- 4) Continue to support collaborative sessions such as the successful jointly sponsored AERA/NARST pre-conference workshop at the 2000 meeting;
- 5) Support and encourage collaborative research, with out-of-school (free-choice learning) science education researchers being natural research partners with others in NARST doing more formal research, for example, encouraging research that explores intersections between technology and out-of-school science learning might be beneficial.
- 6) Initiate ideas for continued dialogue such as the creation of a web-based discussion group or special area of the web site to include information regarding cutting edge research on learning in out-of-school (free-choice) learning settings.

Action Steps

- 1) Agree upon a name for this area of research.
- 2) Plan an awareness campaign for next year's NARST meeting (potentially a reception, buttons, posters, etc).
- 3) Launch a membership campaign focused on science museum/science center researchers, outdoor education researchers, university faculty working in this area, etc. Coordinate efforts through existing research programs such as University of Pittsburgh's LRDC, Curtin University of Technology, the Institute for Learning Innovation, and UC Santa Cruz, King's College and the Exploratorium's Center for Informal Learning graduate program.
- 4) Commit ourselves to creating a joint session each year; either between NARST and AERA/NSTA, and/or between different NARST strands.

References

- Falk, J.H. (1999). Museums as institutions for personal learning. Daedalus, 128(3), 259-275.
- Falk, J.H. (2001). Free-choice science learning: Framing the issues. In: J. Falk (Ed.) Free-Choice science education: How people learn science outside of school, pp 2-9. New York: Teacher's College Press.
- Falk, J.H. & Dierking, L.D. (August, 2002). Lessons without limit: How free-choice learning is transforming education. Walnut Creek, CA: AltaMira Press.

Nature and Purpose of Proposed Changes

We propose changes in the NARST Executive Board and its committee structure based on the changing needs of NARST as an organization. NARST's current committee structure was developed at a time when NARST was a much smaller organization managed by the members of the Executive Board as unpaid volunteers. As NARST has grown, these management functions have become more complex making it increasingly difficult for the Board to carry out its policy-making functions related to NARST's mission. We therefore propose a set of changes in the Board's committee structure that will have the following purposes:

... Allow more professional and efficient management of NARST's ongoing functions, such as organizing the annual meeting and selecting award winners.

... Allow NARST's Executive Board members and standing committees to focus their time and energies on policy issues directly related to NARST's mission.

... Allow for more continuity in leadership by reducing the number of standing committees. This will make it possible for incoming and outgoing committee chairs to have overlapping terms.

The reorganized committee structure described below redefines the purpose of NARST standing committees to emphasize policy-making rather than management functions. Each standing committee is organized around an enduring set of issues related to NARST's mission. Each committee is charged with (a) recommending policies to the Executive Board and (b) developing plans for carrying out those policies. Those plans will generally involve organizing the energies and abilities of NARST's members. These energies and abilities are NARST's most important asset.

We propose that the nine elected members of the Board chair six standing committees. This will allow each incoming board member to serve as co-chair of his or her committee for one year before taking on full responsibility for its leadership. These six standing committee are as follows:

1. Equity
2. External Policy
3. Research
4. Publications Advisory
5. Membership
6. Awards

In addition we propose the Program Committee and possibly the other standing committees (Elections and International) be managed by alternate procedures as described below. The rationale, charge, and membership of each of the purposed committees are described below.

The International Committee

Rationale: In the current NARST bylaws, the the International Committee (IC) "...is responsible for projects focusing in international science education..." and the IC Chair serves as NARST's representative to the International Council of Associations of Science Education (ICASE). This charge seems too narrow in the sense that more seems to be expected of the IC in serving a representational function for NARST's international members (about 30% of the membership) + U.S. members with international research interests. In addition, the IC should serve in a policy advisory function to the NARST organization by helping to assure that international science education research is balanced with foci from within the U.S. Moreover, there are international science education organizations in addition to ICASE that also promise opportunities for international science education research collaborations. Given our expanding global community, all three of these roles seem likely to be increasingly important in years to come. NARST might be better served by an IC with more explicit links between the representational, policy, and research collaboration aspects of the IC's charge. This expanded charge, in turn, should be facilitated by the manner in which the leadership of the IC is chosen.

Therefore, it is proposed that the chair of the IC be elected by all of the NARST members for a designated IC Chair position. The IC Chair would be a member of the Board of Directors with full voting rights and would not increase the current number of nine members of the board of directors. The qualifications of those running for the IC Chair would be based upon the nominees' experiences with formal international science education organizations, as well as their ability to represent the concerns, interests and unique perspectives of the NARST international members. Consequently, both non-U.S. and u.s. members are eligible to serve as IC chair. As with other board positions, the IC chair would come up for election every three years. Because we are proposing that the International Committee be chaired by a Board Member elected specifically for that position, some Board members may need to serve on or Chair two committees.

Charge: The expanded charge of the IC is to recommend policy to the NARST Board concerning matters of international science education research; represent the concerns, interests and unique perspectives of international members; and, stimulate collaborations and exchange if ideas between NARST and other international science education organizations. The Chair of the IC would serve as NARST's liaison to various international science education organizations.

Membership: Chair, 9 members (with at least 2/3 of these from outside the US), ex officio: President of NARST and Executive Secretary of NARST.

The Program Committee

Rationale: Currently, the Program Committee is a committee separate from the Strand Coordinators group, but there is overlap between the membership and the functions of the two groups. Therefore, it makes sense to join these two groups into one Program

Committee, especially since much of the work of the Program Committee concerns the work of the Strand Coordinators, and vice versa. This also allows Strand Coordinators to have a more active, influential, and visible role within NARST as they organize the annual program.

Charge: The Program Committee assists the President-Elect in planning and conducting the annual meeting.

Membership: The Chair of the Program Committee is the President Elect. The Program Committee would include the Annual Meeting Coordinator and/or the Executive Secretary (depending upon how these roles are to be configured), one member of the narst executive board, and each of the strand coordinators.

Equity Committee

Rationale: While it is important to review the functions of each existing committee during this time of re-structuring for our organization, it is obvious that the Equity Committee has been very active in the fulfillment of its responsibilities to NARST. Therefore, the current charge, goals, and procedures for this committee, as explained in the NARST Procedures and Schedules Manual, should be maintained as is.

Charge: "The responsibilities are to provide leadership and guidance to the organization on issues of equity, including but not limited to: gender, ethnicity, socioeconomic status, disabling conditions, sexual orientations, language and religion."

Membership: The membership consists of one Chair and 9 members. The Chair is a Board Member who is appointed by the in-coming NARST President. All other 9 members are also appointed by the incoming NARST President, with three members rotating out every year from their three-years of service. The President-elect and Executive Secretary serve as an ex-officio members.

External Policy

Rationale: In the last few years, we have seen how policy makers have made sweeping decisions about science education issues that have had a great impact on not only how and what content gets taught in schools, but also on how students and teachers should be held accountable for such a curriculum. The Kansas State Board of Education attempts to prevent the teaching of evolution in that state's schools and the comprehensive Texas statewide assessment instrument (or TAAS) are but only two examples of many initiatives that the NARST Community could have positively influenced. Our organization involves the largest group of science education researchers in the country, yet our voice remains silent when it comes

to sharing with the public at large what we have learned through years of rigorous scientific inquiry. It is time that NARST take the active role it has earned and becomes a leading voice in the direction(s) effective science education should take to ensure a scientifically literate pluralistic society.

Charge: To review existing and/or controversial educational policies at the state and national levels and to produce position papers based on research. To produce position papers based on current and innovative findings and distribute these papers through the Communications/Publications and Research Committees to the membership, policy-makers, and community at large. Note that these position papers may not necessarily have to reflect a unified position for NARST, but they are meant to add information on various perspectives based on science education research so that policy makers and the public at large could make more informed decisions.

Membership: The memberships consists of one Chair and 6 members. The Chair is a Board Member who is appointed by the in-coming NARST President. All other 6 members are also appointed by the incoming NARST President, with three members rotating out every year from their three-years of service. The in-coming President and Executive Secretary also act as ex-officio members. Given the function of this committee, senior researchers and/or NARST Past Presidents, past and/or current Presidents of other organizations, policy makers, and/or high-ranking administrators who are also members of NARST should be first considered for membership on this committee. All other aspects of equity (gender, sociocultural background, etc.) should be also considered in the selection of members.

Research Committee

Rationale: At the present time, the charge of the committee is unclearly defined and not distinguishable from the overall focus of the organization. Consequently, the Research Coordinator and committee members have had little direction over the years. A clear delineation of the goals of this committee can better move the organization toward the accomplishment of its stated mission. It is proposed that the position of Research Coordinator be eliminated and the Chair of this committee be a Board Member with a high level of expertise in research and associated matters. Further, the committee will direct its attention to providing the membership of NARST with much needed professional development related to all aspects of research methodology, research findings, and the dissemination of research findings to constituencies outside the organization. It is anticipated that the committee will provide the membership with sessions conducted by both NARST members and non-members specifically related to current and emerging research methodologies, paradigms, data analysis, and topical areas of interest. In addition, the committee will organize and provide professional development activities related to the dissemination of technical research reports to lay audiences and communication of research to the media and funding agencies. These foci

will provide the committee with a productive direction and facilitate the accomplishment of the NARST Mission.

Charge: Develop, organize and/or implement various professional development activities for the NARST membership including special research topic pre-sessions at the Annual Meeting and research reviews and research-oriented documents specifically designed for internal use and member benefit.

Membership: Chairperson, 6 additional members, NSTA Director of Research, Executive Secretary (ex-officio)

Publications Advisory Committee

Rationale: It is NARST's mission to have a positive impact on educational policy, science teaching, and science learning. There is much concern about the level of influence NARST and NARST members have had in these areas. NARST publications are the organization's primary outlet to constituencies outside the organization. In addition to developing policy for the existing publications of the organization, the committee will facilitate the development of joint publishing projects with other professional organizations (e.g., NSTA, AETS) as well as publications, concept papers, and press releases/updates targeted for use by the media, policy makers, funding agencies, national/local education officials, teachers, and other professional organizations.

Charge: Recommend policy concerning the Association's publications and develop and disseminate additional publications specifically designed for use by media, policy makers, education officials, teachers, and other professional organizations.

Membership: Chairperson, 3 additional members, JRST Editor, NARST NEWS Editor, NARST Director of Electronic Services, Directors of other NARST publication efforts, NSTA Director of Research (ex-officio), Executive Secretary (ex-officio)

Membership and Election Committee

Rationale: Currently, the Elections Committee has several responsibilities: a) soliciting names then selecting two or more nominees for each vacant office in a timely fashion so that nominations & their biographies might appear in the December issue of NARSTNews, b) tabulating ballots which are mailed to the chair of the Elections Committee within four weeks from the time the Executive Secretary mails them out, and c) announcing election results at the Annual Meeting (chair does this).

The rest of the election responsibilities are the Executive Secretary's who, a) receives petitions--up to three (3) months before the Annual Meeting-- containing a minimum of

ten (10) member names and signatures for additional nominations, b) arranges for ballots to be printed, and c) mails out ballots to membership two (2) months prior to annual meeting. In addition, the President notifies candidates of the election outcome one month prior to their assuming office.

It is proposed that the Elections Committee be eliminated and in its place a new committee be formed called "Membership and Election." The justification is to improve linking recruitment, retention, and increased activity from a larger segment of the membership.

Charge: Seeking new members from a variety of backgrounds and retaining active members by soliciting interest in committee membership throughout the organization as well as elected office. In addition to developing a slate for annual elections, the committee is also generally concerned with recruitment, retention, and responsiveness of the organization to members' interests.

Membership: Currently, the President appoints five members to the Elections Committee at the Annual Meeting (one of whom is Immediate Past President who serves as chair). The Executive Secretary serves as ex officio member.

It is proposed that this committee be expanded to seven members to include both the Immediate Past President and the President-Elect serving as co-chairs (with Executive Secretary continuing as ex-officio). It is further suggested that the Membership and Election Committee members represent the diversity of the membership and their interests, such as college science teaching, practitioner research, international members and so on.

Awards Committee

Rationale: NARST currently has six standing awards committees which manage the nominations and selection of the Outstanding Master's Thesis, Outstanding Dissertation, NARST, JRST, Early Career, and Distinguished Contributors awards. We propose that these committees become subcommittees of a consolidated Awards Committee. The subcommittee chairs (appointed by the President) would manage the nominations and judging of the awards, supported by the Executive Secretary and NARST web site. The chair of the Awards Committee (an elected Board member with voting rights) would report to the Board on the policy issues related to the award process.

Charge: Oversee the work of the Awards Subcommittees that accept nominations and select winners for each of NARST's awards. Discuss issues relating to equity and efficiency in the selection process and the appropriateness of the award that NARST gives. If necessary, recommend changes in awards or procedures to the Executive Board.

Membership: The Awards Committee will consist of 12 members, appointed by the President in consultation with the chair of the Awards Committee. These members will serve as co-chairs of the six Awards Subcommittees. Awards Committee members, like

Strand Coordinators, will serve overlapping two-year terms. Thus six new committee members, one for each subcommittee, will be appointed each year.