

E-NARST NEWS

National Association for Research in Science Teaching

*Organized to improve science
teaching through research*

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Message from the President

*Jim Shymansky, President of
NARST, June 6, 2005*

Since our meeting in Dallas, we on the NARST board has been tackling several items that will have a great impact on how our organization will operate in the near future. The list includes (1) a reorganization of the executive, accounting, electronic services and annual meeting coordination services, (2) an examination of the annual meeting schedule based on attendance data over the past several years, and (3) a continuing evaluation of the annual meeting format.

Regarding item #1, we are in the process of creating a data base system that will allow members to transact most, if not all, of their NARST

business on-line. We hope to have the new system operable in time for paying next year's membership dues and registering for the 2006 meeting in San Francisco. The new system will allow us to consider consolidating several of the administrative functions now being conducted at three different sites. The new system will be more efficient, more cost-effective and more convenient when in place.

Regarding item #2, the board has to schedule annual meetings three years in advance. For many years, the board has attempted to alternate sites to coincide with NSTA (National Science Teachers Association) and AERA (American Educational Research Association).

Thus, in 2006 we will meet in San Francisco in conjunction with AERA and in 2007 we will meet in New Orleans with NSTA. A recent exception to the pattern was the meeting in Vancouver



President (now Past President) John Staver (right) handing gavel to President-elect (now President) Jim Shymansky at the awards banquet at the annual meeting in Dallas, April 2005

in 2004. Due to a last-minute change by AERA, we were forced to seek a separate venue-so our meeting did not coincide in site with either AERA or NSTA. Vancouver turned out to be our largest attendance ever.

In 2008, we are again slated to meet in New York City where AERA is scheduled. The rationale for following this pattern of alternating sites with AERA and NSTA has been that members could save time and money if they chose to do NARST and one of the other two meetings in a given year. But this rationale has never been checked with attendance data. This summer, we will try to get a handle on this attendance pattern by checking

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Table 1. Frequency and means of responses to Dallas conference questionnaire (1=Unsatisfactory; 5=Excellent)

Item	1	2	3	4	5	NR	Mean	sd
1. Concurrent sessions using 12-room, strand-specific scheduling	2	4	11	44	35	3	4.10	0.91
2. New strand-specific format of poster sessions	16	15	13	34	17	4	3.22	1.36
3. Mid-afternoon placement of poster sessions	12	8	13	38	24	4	3.57	1.30
4. Format of tandem small group presentation	13	14	11	20	14	27	3.11	1.41
5. Placement of awards dinner on final evening	36	12	16	12	7	16	2.30	1.38
6. Additional evening social activities with hors d'oeuvres	5	10	24	23	21	16	3.54	1.17
7. Panel format for the plenary sessions	13	12	18	23	14	19	3.19	1.32
8. Placement of abstracts on the web rather than in the program	18	11	15	23	22	10	3.22	1.47
9. Overall rating of conference compared to previous NARST conferences	6	9	19	34	7	24	3.36	1.07

the NARST registrations against the AERA and NSTA registrations for the past 3 years. We hope to be able to use this analysis in deciding the venue for our 2008 annual meeting and beyond.

Regarding item #3, for those of you who attended the 2005 meeting in Dallas, you would have noticed that we incorporated several changes in the program. We implemented two new presentation formats, the interactive poster session and tandem group presentation, held social events (mixers with hors d'oeuvres and cash bar) on each night of the meeting, and changed the awards luncheon previously held on

the next-to-the-last day of the meeting to an awards dinner held on the final day of the meeting. Most importantly, we collected feedback via a questionnaire from those in attendance on the changes. A summary of that feedback is presented in Table 1.

Though the return rate (98 of the 800 in attendance) was disappointingly small, the feedback is nonetheless valuable. President-elect, Jonathan Osborne, and his program committee will use this information in planning for the San Francisco meeting. The challenge for the San Francisco team and future program committees will be how to provide program access and opportunities for meaningful interactions for as many of the 900–1000 researchers who propose presentations each year. Adding more traditional “concurrent paper sessions” to the program is not feasible. Creative formats such as the “strand-specific interactive poster sessions” used in Dallas are necessary if we are to keep the length, required meeting space and cost of the meeting reasonable for participants.

Your feedback and input provide data that are critical to making informed decisions about our programs and organization in general. I encourage everyone to stay involved and be heard. Have a great summer, whichever applies.

Jim Shymansky
President

Message from the President-Elect

Jonathan Osborne, President-Elect

Come to San Francisco for our NARST Annual Meeting 2006!

Next year’s annual conference will be held at the Hyatt Embarcadero in San Francisco from Monday April 3 to Thursday April 6. The theme of the conference is ‘Learning in Formal and Informal Contexts.’ The call for proposal is now on the NARST web site (<http://www.narst.org>) and proposals must be submitted by August 15, 2005. Full guidelines can be found at this URL: <http://www.educ.sfu.ca/narst/>

A group of NARST attendees went for a walk in Dallas and found neat sculptures of oxen.

LET'S CHANGE BEFORE IT'S TOO LATE

A speech given at the awards banquet at the 2005 annual meeting of NARST, Dallas, TX, April 7

John R. Staver, NARST President

Change is a fundamental concept in research, and it has also been said that the only constant in life is change. Let me cite a few examples of change that have happened in an up close and personal way. As a sophomore at Indiana University in of s? mAnd?in@a@ife?ci e?thas? nemenAs

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that later. Graduate students, examine, reflect, and understand that fire in your gut because that is your motivation for a career as a researcher. Then follow it.

Now I want to say a few words about how much change must occur for NARST and its members to make important contributions around the world and in the U.S. The excellent plenary sessions at this conference confirmed what recent conversations with international colleagues have told me, that all of us face at least some common problems:

1. Connecting research, policy, and practice;
2. Increasing the supply of qualified teachers of science;
3. Recruiting young people into careers in science, mathematics, engineering, and technology; and
4. The pernicious effects of high stakes testing.

Now a problem is when one stands on one side of a gap with little or no knowledge of how to get to the other side (Hayes, 1981). Consequently, problem solving is what you do when you do not know what to do. It also means that we must pose the Joel Barker question to ourselves. Barker is a well-known worldwide consultant to business, industry, and education on the subject of change. His question is this: What needs to be done that is impossible to do now within the present structure, operation, and culture of an endeavor, but if it were done would reap immense improvements in the endeavor? Since I only have a few minutes, I will focus on some of the issues mentioned above.

Let's consider first the disconnection among research, policy, and educational practice. Nowhere is this more obvious than in the U.S. No Child Left Behind Law (NCLB). NCLB emphasizes the importance of teachers' subject matter

knowledge almost to the exclusion of any other factors. But the available research tells us that the correlation between teachers' content knowledge and students' achievement is 0.3 at best. This means that they share 9% of their variance in common. What accounts for the other 91% of each factor? Joseph Schwab (1973) weighed in on this many years ago. According to Schwab, subject matter, teaching, learning, and the milieu are each necessary but not sufficient areas of knowledge and expertise for developing sound science curriculum. Being a bashful fellow, Schwab labeled subject matter specialists incompetent for such a task. He argued that teams of experts from each area are needed to develop sound science curriculum, and I believe that Schwab's admonitions also apply to preparing teachers of science.

Speaking of teachers and No Child Left Behind, supporters of NCLB in the U.S. Department of Education claim that teachers can overcome the variety of social and economic problems that public school teachers face by using research-based teaching methods. Yet these NCLB advocates ignore sound research that conflicts with their view. Many of us are familiar with the work of Bill Schmidt on Third International Mathematics and Science Study (TIMSS). Schmidt documented the Achilles Heel of NCLB in a plenary session address at the Association for Science Teacher Education in January of 2005. Using TIMSS and NAEP data, Professor Schmidt pointed out that the direct path from socio-economic status

(SES) to student achievement has a path coefficient of about .7. In addition, the direct path coefficient from SES

to curriculum is about .7, and the path coefficient from curriculum to student achievement is also about .7. Schmidt's research documents the powerful and simultaneous direct and indirect effects of SES on student achievement. These are effects that teachers, regardless of how high their qualifications are, cannot overcome.

Then there is the high stakes nature of assessment that NCLB has forced on the schools, which is coupled with the unachievable target of Adequate Yearly Progress that has all students, that's right, all students being proficient by 2014. Robert Sternberg, noted professor of psychology and education at Yale University, views NCLB as well-intended because it responds to schools' need for accountability and calls for rigorous, scientifically research-based practice in education. Sternberg laments, however, that NCLB is failing to achieve its intended goals because "...it flies in the face of much of what we know about the science of education" (p. 56). Sternberg summarizes his criticism as follows: "...No Child Left Behind is an act used to produce the nation's educational report card. But, it, itself, receives



Three NARST attendees: Magnia George, Felecia Moore and Pauline Chinn

a failing grade. Schools are being straightjacketed in attaining what is best for our children, and straitjackets

cannot produce the kind of flourishing education system our children need and deserve” (p. 42).

There are mounting questions about the motivation behind NCLB. Many believe that conservative forces in the U.S. want public education to go the way of the dinosaur. The state of Connecticut has recently filed suit, arguing that NCLB is an unfunded mandate that cannot be achieved. We must remember that preK-12 public education in the U.S. is a 500 billion dollar endeavor. \$500 billion is a number that is very attractive to private business.

How can NARST contribute to a solution of this problem? The long-standing disconnect among sound research, policy, and practice stems at least in part from the absence of the research community at tables where policy is made and implemented. Whereas NARST members may sit at such tables, NARST as a professional society does not sit at tables where science education policies are made and implemented. That must change, and that means that NARST must change, not just to survive, but rather to thrive in the next 10-20 years. Presently, the NARST Board has commissioned a task force to consider how the separate operations of the NARST office might be brought under one roof, and how a NARST Executive Director might be able to take a seat at tables where science education policy is made and implemented. Please stay tuned over the next months as the task force gets to work and shares its thoughts. But all of this is not to say that NARST members, as individuals, should not get involved. If you are a U.S. NARST member, have you ever considered serving a stint as an NSF program officer? If you are an international member, have you considered serving in an analogous role

in your homeland?

Let’s consider next the supply of highly qualified teachers of science. I

Change is a fundamental concept in research, and it has also been said that the only constant in life is change.

am disturbed and saddened to say this because I began my career as a teacher and I will end my career as a teacher, but in the United States, teaching is rather low status work in terms of pay, working conditions, and respect given teachers from the society at large and especially from policy makers. We in the U.S. have much to learn from our Asian colleagues, for example, about teaching as a higher status profession. We can also learn from the professions of law and medicine. First, there are far too many institutions of higher learning in the U.S. that prepare teachers. Kansas has 23. During my tenure in Chicago, the state of Illinois had over 50. We need perhaps 1/3 that number, and they should be institutions that are heavily involved in partnerships between university content specialists, university pedagogical specialists, and teachers in partner school districts. Second, a century ago, lawyers and doctors were not viewed with a great deal of respect. One could become a lawyer by apprenticing with a practicing attorney, and medical education involved much less schooling. That changed drastically

Let’s get off of the sideline and get into the game before it’s too late.

in the early 1900s, and I suggest that teacher preparation in general and science teacher preparation in particular must change. Should science teacher education follow the lead of law and medicine? Should science teacher education become exclusively a graduate program at the masters level,

after a prospective teacher completes an undergraduate degree in a science or engineering discipline? I don’t have the answer, but I am asking the question, and NARST members as individuals and NARST as a research professional society need to sit at the tables where such policies are debated, established, and implemented.

Yet another reason why NARST as well as NARST members need to be present at tables where policy is made and implemented is that underneath policy lie values and systems of belief. Elliot Eisner is an expert on values and belief systems as they are applied to education. Arguing that values and goals are founded in ideologies, Eisner asserts, “Ideologies are belief systems that provide the value premises from which decisions about practical educational matters are made” (cited in Uhrmacher and Matthews, 2005, p. 10). Wherever democracy exists, there exists diversity among citizens as well as leaders in terms of their values and underlying belief systems.

Let me turn to a final example. Gallup Poll data have shown for the last 15 years that about 9 out of 10 Americans believe in God. Thus, most Americans share two fundamental values, faith and reason. Sometimes faith and reason collide, and the subject of teaching evolution in U.S. public schools is a prime example of how these values and their underlying belief systems have influenced science teaching. Now, I am not going to rehash all that has happened or update you about all that is about to happen in Kansas as supporters of evolution continue to square off with advocates of creationism. Rather I am going to conclude my talk by presenting a metaphor and asking for your help about all of the issues that I have mentioned.

I want you to close your eyes for a

moment and picture a bride and groom. They are lighting a unity candle, one that signifies and celebrates the beginning of their life together as husband and wife. Langdon Gilkey (1988), the noted process theologian from the University of Chicago, points out a great irony of the creationists: "... it is not so much the warfare of science and religion that threatens both our scientific and our spiritual heritage as it is their premature marriage" (pp. xiv-xv). In Christian wedding ceremonies, there comes a point at which the minister may say: If there is anyone present who knows why this couple should not be joined in holy wedlock, let them speak now or forever remain silent. We face the prospect of two

marriages. One is between Intelligent Design Creationism and the school science curriculum; the second is between Intelligent Design Creationism and science itself. They are not just premature, but entirely inappropriate marriages. NARST colleagues, there seem to be a legion of premature or inappropriate marriages on a variety of issues across the international landscape of science education. I am standing to speak against these unions and in doing so speak in behalf of more appropriate unions. I ask you as individuals and NARST, the research-based professional society, to join me. Let's get off of the sideline and get into the game before it's too late.

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AWARDS COMMITTEE

Fouad Abd-El-Khalick, Chairperson

NARST used to have five standing awards committees, each chaired by an Executive Board member. The committees managed the nominations and selection of the NARST Outstanding Paper Award, JRST Award, Outstanding Doctoral Research Award, Early Career Research Award, and the Distinguished Contribution through Research Award. Since the reorganization of NARST went into effect, each of the five committees came to be managed by a chair and co-chair appointed by the President-elect from the NARST membership. These committees, now called Selection Committees, are managed by the Awards Committee. This latter committee comprises the chairs and co-chairs of the individual Selection Committees and is chaired by a member of the Executive Board.

The chairs, co-chairs, and members of the Selection Committees:

- Accept nominations and select winners for each of the NARST awards,
- Discuss issues related to the appropriateness of the awards in light of the NARST mission, as

well as the equity and adequacy of the nomination and selection processes, and

- Recommend changes in the awards or nomination and selection procedures to the Awards Committee.



Here are three NARST Board members, all originally from Lebanon: Fouad Abd-El-Khalick (Chair of Awards Committee), Zoubeida Dagher (departing Chair of Awards Committee), and Saouma BouJaoude (Chair of International Committee), April 2005

The awards benefit the NARST membership as well as the award recipients. Through the processes of selecting the award winners, we all come to learn about the best that NARST has to offer and refine our standards for good research. If you wish to participate in and help improve these processes, we encourage you to attend the meetings of the Awards Committee in San Francisco and make your interests known to the President-elect and to Fouad Abd-El-Khalick, Chair of the Awards Committee.

NARST is currently accepting submissions for 3 of the awards: Outstanding doctoral research,

early career research, and distinguished contributions to science education through research. The outstanding paper award deadline has now passed, and the fifth award, JRST award, is chosen from all articles in JRST from the respective year.

Submission Invitation

2006 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, 2005 to submit an expanded ten-page abstract (in PDF format) to the committee for consideration for the 2006 NARST Outstanding Doctoral Research Award. Submissions are sought from as wide a field of candidates as possible, 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 copy (in PDF format) of the complete dissertation. The final decision of the committee will be based on the complete dissertation. All applicants will be notified of their status after the first round of judging is completed in November. The recipient will be announced at the awards luncheon at the 2006 annual meeting in San Francisco.

The committee welcomes doctoral dissertations from all research perspectives. The ten-page abstract

should be structured to describe clearly the following:

- purpose or objectives of the study;
- conceptual/theoretical framework;
- research approach/methods;
- data sources and methods of analysis;
- findings or results;
- conclusions and implications; and
- significance of the study.

It is suggested that nominees model their abstracts after conference proposals submitted for NARST: Abstracts should foreground rationale, methods, and results.

NARST is now accepting submissions for the following awards for the year 2006:

Outstanding Doctoral Research Award

Early Career Research Award

Distinguished Contributions to Science Education through Research Award

Judging in both rounds (for abstracts and dissertations) will be based on the following three central questions:

- Is the question being asked of importance to the science education community?
- Is the research approach and its implementation thorough and appropriate for the research question(s) asked? And
- 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 who were able to make a case for the significance of their study to the science education community as a whole; included sufficient descriptions of methodology; 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 an email with the following three attachments (in PDF format): (1) one file containing a ten-page, double-spaced abstract (margins limited to one inch all around using 12 cpi font with all references to the author and author's institution removed); (2) one file containing a five-page abbreviated bibliography; and (3) one file containing a cover sheet which includes the author's name, address where they can be reached through December 2005, 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 email with the three attachments must be received by Gail Jones gail_jones@ncsu.edu no later than **September 15, 2005**.

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.

The major advisor/professor/supervisor or chair of the dissertation committee should sign the hard copy of the aforementioned cover sheet. Signed cover sheet, along with single hard

copies of the abstract and abbreviated bibliography, should be sent via regular mail to:

Gail Jones, Chair
NARST Doctoral Research
Award Committee
326 Poe Hall, Box 7801
Raleigh, NC, USA 27695

Questions regarding this award should be e-mailed to either Committee Chair or Co-Chair:

Gail Jones gail_jones@ncsu.edu
Shari Britner sbritner@bradley.edu

Submission Invitation

2006 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, 2000. All NARST members are encouraged to consider nominating an eligible and deserving early career member.

Nominations for the award must be accompanied by nine (9) copies of supporting material including:

- A letter of nomination which discusses the nominee's impact on the field,
- The nominee's vita,
- A two-page summary of the nominee's research interests, prepared by the nominee,
- Three of the nominee's best papers, and
- Two additional letters of support

to be sent separately.

Nomination materials should be received by William G. Holliday (holliday@umd.edu) at the address below no later than **November 15, 2005**.

William G. Holliday, Chair
Early Career Research Award
Committee
Science Teaching Center
Department of Curriculum &
Instruction
University of Maryland, College
Park
College Park, MD 20742

Questions regarding this award should be e-mailed to either Committee Chair or Co-Chair:

William Holliday wh22@umail.umd.edu
Hsioa-Lin Tuan suhltuan@cc.ncue.edu.tw

Submission Invitation

2006 NARST Distinguished Contributions to Science Education through Research Award

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. Research contributions may be of several types including—but not limited to, empirical, philosophical or historical research, evaluative studies, policy-related research, and studies incorporating new techniques for conducting research.

Applicants for the Award should have sustained contributions over a 20 year period since the award of the doctorate degree. Applicants should be individuals who are at the pinnacle of their career. The distinguished contributions 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 time no less than 20 years has:

- Made a **continuing contribution** to science education through research;
- Provided **notable leadership** in science education through research; and
- Had **substantial impact** on science education through research.

All NARST members can nominate individuals for this award. Please send a letter of nomination by **August**



This year, John Clement received the 2005 Distinguished Contribution Through Research Award

30, 2005 to Richard Duschl at rduschl@rci.rutgers.edu

Richard Duschl will then contact the people making nominations as well as the nominees about the process and the additional materials needed to complete the application process.

Questions regarding this award should be e-mailed to Committee Chair Richard Duschl rduschl@rci.rutgers.edu or Co-Chair Jane Butler Kahle kahlejb@muohio.edu

NARST Outstanding Paper Award

The NARST Outstanding Paper Award is given each year to the best paper presented at the NARST annual conference. Eligible papers should be of publishable quality and should be submitted in an unaltered version from the one distributed at the time of the conference presentation. The **deadline** for this year's award has already **passed**.

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.

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.

Journal of Research in Science Teaching (JRST) Award Information

The Journal of Research in Science Teaching Award Committee is charged with selecting the outstanding research article from the journal each year. This award allows NARST to recognize excellence in scholarship within our research community. Every article that is published in JRST is automatically considered for the award. There are two phases in the review

process.

In the first phase, each committee member reads 2-3 issues, reviews each article, and then ranks the articles within each issue (from most outstanding to least outstanding). Committee members may contact other members reviewing the same issues to discuss the relative merits of the articles and to utilize the diversity of expertise of our members. The article receiving the lowest ranking from each issue is selected to continue on to a second phase of review. If two or more articles are very close in ranking in a given issue, both articles enter the second phase of review.

The articles that received the lowest ranking from each issue are reviewed a second time and ranked. During this round, all committee members read, evaluate and rank the top articles from each issue. Again, 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 lowest rank is declared the outstanding article. The recipients of the JRST Award are announced and recognized at the annual meeting each year.

For more information about the JRST Award, please contact Charlene Czerniak, Chair of the JRST Award Committee at charlene.czerniak@utoledo.edu

EXTERNAL POLICY AND RELATIONS COMMITTEE (EPRC)

Julie Gess-Newsome, Chairperson

The External Policy and Relations Committee (EPRC) came into existence with the reorganization of the NARST board. The charge of the EPRC is to:

- 1) Review and/or be informed about existing educational policies at the state, national, and international levels and provide the NARST membership with access to

this information,

- 2) Facilitate the production of position papers based on research that can assist policy makers and the public-at-large in making more informed decisions about science teaching and learning, and
- 3) Foster the development of partnerships and collaborations with appropriate professional organizations and groups in order to influence policy, politics, and public relations in regard to quality science teaching and learning.

Given the function of this committee, senior researchers, NARST Past-presidents, past and/or current presidents of other organizations, policy-makers, and high-ranking administrators who are also members of NARST are considered first for membership on this committee.

During its first two years of work, the committee has struggled with issues of how NARST, as an organization, can best become involved in policy issues and how best to assist NARST members in thinking about policy both in advocacy roles and in relation to their research. This year, the committee decided that an important first step

was to become better informed about policy in general. With strong backgrounds in policy issues, guest members Joe Shane (Purdue University) and Michele Lee (Harvard University) assembled a bibliography of readings that could help the committee think in a more informed fashion about their work. This bibliography can be found in the following section, and we welcome your thoughts and additions to this resource. The committee is currently exploring the idea of inviting internationally recognized scholars in policy to present sessions at the upcoming NARST annual meeting that will highlight issues of policy. If you have comments, ideas, or would like to be involved in the committee's work, feel free to contact the committee chair, Julie.Gess-Newsome@nau.edu.

A bibliography of articles related to policy was developed by Joe Shane (Purdue University) and Michele Lee (Harvard University) on behalf of the NARST External Policy and Relations Committee. This list of reference articles is online at <http://www.educ.sfu.ca/narstsite/links/>. If you have additional articles that you would like to see added to this list, please send the citation and a recommended placement in this list to Julie.Gess-Newsome@nau.edu.

INTERNATIONAL

The activities of the International Committee between April 2004 and April 2005 included planning an international seminar, selecting the winners of the NARST travel scholarships, and communicating with ESERA to organize an ESERA session at the 2005 NARST Conference and a NARST session at the 2005 ESERA Conference, in addition to attempting to encourage international members to participate in NARST conferences. Details of these activities are presented below.

International Seminar

The title of the international seminar is "Learning from cross cultural science education" (Appendix A). Participants in the seminar included Rodger Bybee,

Doris Jorde, Saouma BouJaoude, and Senta Raizen.

NARST Travel Scholarships

In its October 2005 meeting, the NARST Executive Board agreed to establish five NARST Travel Scholarships in the total amount of \$2,500 (\$500 to each awardee) to be administered by the International Committee. Guidelines for eligibility and selection procedures were established during the meeting. The scholarships were advertised in two ways. First, an announcement and an application form were posted on the NARST website. Second, the announcement and the application form were emailed to all international members based on an

email list provided by Marilyn Estes, NARST Administrative Assistant. Two reminders were emailed to all international members. Seventeen applications were received by the deadline. The applications were blinded and emailed to the members of the International Committee for evaluation and ranking. Four evaluations were received by the deadline, and one more was received after the deadline. However the fifth evaluation did not use the procedures for ranking established by the Committee and its results were used to validate the results of the final ranking of applicants. The five individuals who received the awards were Cavas Bulent, Han JaeYoung, Luis Tinoca, Oksana Bartosh, and Shu-Nu Chang. I want to acknowledge the close collaboration

between the NARST International Committee and the NARST Equity and Ethics Committee in preparing the guidelines, establishing the selection criteria and procedures, and preparing the announcement and other documents for the scholarships administered by the two committees.

Research Association (ESERA) Conference that will be held in Barcelona, Spain between **August 28 and September 1, 2005**. Participants in the session included, Dr. Larry Yore, who organized the session, Saouma BouJaoude, Brian Hand, Jim Shymansky, and John Staver.

Travel Scholarships was sent to all NARST international members. This email encouraged these members to participate in the annual conference and apply for the scholarships. However, no scholarship applications were received from South America or Africa, even though several reminders were sent. A strategy to encourage individuals from South America and Africa to participate in NARST conferences and other NARST activities will be developed.

NARST session at the ESERA 2005 Conference.

Communication with International Members.

A NARST session will be presented at the European Science Education

The email announcing the NARST

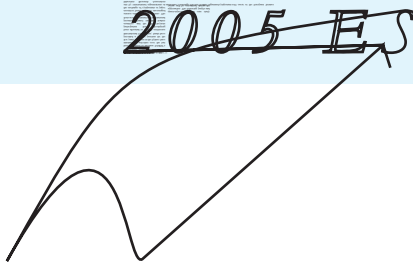
*Join NARST at the 2005 European Science Education Research Association (ESERA) Conference, which will be held in Barcelona, Spain between **August 28 and September 1, 2005.***



ESERA

EUROPEAN SCIENCE EDUCATION RESEARCH ASSOCIATION

2005 ES



Children by Provo
Paper title: Helping
Louis, USA
NARST University
James A. Shymansky

Presenters:

University of Beirut
Coordinator of NARST
Saouma Boujaoude

President:

Victoria, Canada
Distinguished Professor
Larry D. Yore, NARST

Organizer:

Symposium:

Technologies, Materials, and Support for New and Experienced Teachers

John Staver, Immediate Past President of NARST, Kansas State University, USA.

Paper title: *Examining the Controversy over Intelligent Design and Evolution in U.S. School Science*

Brian Hand, Outstanding JRST Paper Committee/NARST Learning Strand Reviewer, University of Iowa, USA, and Lori Norton Meier, Iowa State University, USA.

Paper title: *Developing Grade 3 Students' Understandings of the States of Matter through the Use of Inquiry and Language Based Strategies*

Larry D. Yore, Chair, Membership and Elections Committee of NARST, University of Victoria, and Trudy G. Holden, Victoria School District #61, Canada.

Paper title: *Case Studies Using Pretest, Posttest, Pre-Interview, Post-Interview, and Performance Tasks to Determine Grade 6/7 Students' Metacognitive Growth in Science Reading Awareness and Executive Control*

See <http://www.esera.org/> for information about ESERA and <http://www.esera2005-cresils.org> for information about ESERA 2005.

Paper Summaries

The following are abbreviated abstracts of the papers that will be present in the NARST symposium at the ESERA Conference.

James A. Shymansky

E. Desmond Lee Professor of Science Education and Project Director, University of Missouri, St. Louis, Missouri, USA.

Paper title: *Helping Rural School*

Children by Providing Strategies, Technologies, Materials, and Support for New and Experienced Teachers

The "Science Cooperatives" project (Science Co-op) is a "local systemic change" project funded by the National Science Foundation (NSF Grant ESI 9911857) over a five-year period (2000-2005). The project has targeted 38 small town and rural school districts in Missouri and Iowa. It utilizes geographic clusters of districts organized into cooperatives as well as on-site and distance communication technologies (primarily email and interactive television) to provide the professional development and support activities for the approximately 2,000 preK-6 teachers in the 38 participating districts. Project staff work with scientists, consultants, field coordinators, and district leadership teams in planning and implementation project level, co-op level, and district level professional development.

Since June 2000, project activities (on-site and distance professional development), science teaching strategies, and student achievement have been monitored and measured using a variety of formal and informal strategies. Consistently over this period, teacher attitudes and self-assessments of science teaching effectiveness have improved. Consistent with project goals, monitoring of science lessons has revealed increasing emphasis on (1) inquiry, (2) use of teacher-adaptations of FOSS, Insights, and STC science kits, (3) integration of science with other curricular areas, and (4) involvement of parents. Data on the use of interactive television (both with live presenters and with videotaped presentations) and of asynchronous delivery of science content have revealed important differences in teacher attitudes and achievement.

John R. Staver

Professor, Center for Science Education, Kansas State University, Manhattan, Kansas, USA.

Paper title: *Examining the Controversy over Intelligent Design and Evolution in U.S. School Science*

Controversy over teaching evolution in U.S. school science emerged on a national stage with the Scopes trial in 1925. Although broad public attention has waxed and waned in the eighty years since Scopes, the controversy itself has continued to evolve. Presently, the controversy expresses itself in advocates' attempts to include Intelligent Design Theory as an alternative scientific theory to evolutionary theory in U.S. school science curricula. My purpose in this paper is to examine the controversy in its current form by examining the motives and strategies of its advocates, and the responses of its critics. In so doing, I will pay particular attention to how the controversy is playing out in Kansas as I write this abstract. By July 2005, the Kansas situation should be as heated as the summer weather in Kansas. Daytime high temperatures in Kansas often approach 100 degrees F, or 37.8 degrees C. In sum, advocates of Intelligent Design Theory are circumventing the long-standing norm of establishing a new concept as scientific within the scientific community before advocating its inclusion in the school science curriculum.

Brian Hand and Lori Norton Meier

Professor, University of Iowa, Iowa City, Iowa, USA

Assistant Professor, Iowa State University, Ames, Iowa, USA.

Paper title: *Developing Grade 3 Students' Understandings of the States of Matter through the Use of Inquiry*

and Language Based Strategies

There has been much recent attention on improving students' understanding of science through the incorporation of language-based strategies (Saul, 2004). These strategies are based on the incorporation of specific talk, reading, and writing strategies into science classrooms (Yore, Bisanz, & Hand, 2003). However, much of the research done to date has focused on implementation of single strategies only, that is, reading strategies or writing strategies. Further to this, much of the work has been on developing learning how to use language, rather than on using language to learn. Such differences are important, as learning how to use language tends to focus on achieving proficiency of mechanical use, whereas using language to learn is based on more cognitively demanding tasks of building conceptual frameworks rather than mechanical skills.

The study was qualitative in nature and conducted at a rural elementary school in the Midwest region of the United States. The school district has been designated as a rural poverty district by the federal government. The students completed a topic on Matter as a requirement of the school curriculum. The major focus of the unit was on the different states of matter—solid, liquid and gas. Students were required to pose questions, make observations, and produce claims based on evidence, then check to see what other people say about the topic (the Science Writing Heuristic, Hand & Wallace, 1999). Students were required to use non-fiction text, dialogical interactions and writing using diverse types of writing (narrative, plays, and poetry) to build understanding.

Data were collected using pretest and posttest consisting of five questions – one question was a recall question (what are the states of matter), while the other four were more conceptual

in nature. All the testing was done via oral interviews by the researchers involved. Teachers were observed during the implementation of the unit in order to provide feedback on their pedagogical practices, and to gather data on the language instruction and practices adopted within the respective classrooms. These lessons were videotaped for analysis with both written and verbal feedback provided by the researchers. Samples of students' science journal entries used to record their investigations, notes after class discussions, and any diagrams they wanted to draw to help them understand were collected. The researchers also recorded the range of language-based opportunities provided to the students including talk in small group and whole class discussions, reading of informational and fiction text, and writing opportunities provided.

Larry D. Yore and Trudy G. Holden

University of Victoria Distinguished Professor, University of Victoria

Psychologist, Victoria School District #61, Victoria, British Columbia, Canada.

Paper title: *Case Studies using Pretest, Posttest, Pre-Interview, Post-Interview, and Performance Tasks to Determine Grade 6/7 Students' Metacognitive Growth in Science Reading Awareness and Executive Control*

Metacognition, a term borrowed from developmental psychology, includes theory and research that focus upon one's thinking about thinking. Metacognition appears to consist of two distinct clusters: self-appraisal or metacognitive awareness of the cognitive operation and self-management or executive control in real-time of the operation (Yore, Craig, & Maguire, 1998). Self appraisal (metacognitive awareness) includes declarative knowledge (what

is known), procedural knowledge (how to do the processes involved), and conditional knowledge (why and when a process is used). Self management (executive control), on the other hand, is dynamic, operates in real-time, and includes three of the processes involved in self-regulated functioning. Self management/executive control includes identifying purpose; selecting relevant knowledge, goal oriented strategies, and a heuristic; and assigning time and effort to realize the goal (planning); checking or evaluating progress toward the goal as an ongoing process (monitoring), and intentional adjustment of effort, redirection of activities, and use of fix up or alternative strategies when problems with progress are detected (regulating).

This series of case studies is a post hoc analysis of inventory and interview responses on 97 grade 6/7 students' metacognitive awareness and executive control of specific science reading strategies. The mixed methods approach investigates seven sets of these students as they responded to specific subtests and interviews related to specific reading strategies before and after receiving explicit science reading instruction on specific reading strategies embedded in their inquiry-based study of two units from their science program. Matched pretest and posttest and pre-interview and post-interview responses for each subsample were analyzed using correlated t-tests. Qualitative responses from each subsample were interpreted using a constant comparison in which three experienced people considered the students' responses to questions and tasks in the semi-structure interview protocols. The quantitative and qualitative results indicated similarities in assessments of these metacognitive awareness and self-management components related to science reading and the difficulties changing students' metacognition of science reading.

RESEARCH COMMITTEE

Pamela Abder, Chairperson

The Research Committee is responsible for advising the Association on research matters. Other activities include:

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. Liaison with the NSTA Research Committee;
4. Revision of research areas included in the NARST Membership form;
5. The support of commissioned papers on timely and important research topics;
6. The development of new ideas

for increasing the visibility of NARST research.

During the 2004-2005 period the Committee assisted the program committee in identifying the Conference theme, identifying speakers and designing the plenary sessions and in reviewing and selecting all Pre-Conference workshops for the annual NARST meeting. The committee also reviewed and selected the NARST sessions presented at NSTA. Members were also involved in finding some resolution to the PEERs Matter joint publication with NSTA.

At the Dallas meeting several members mentioned to committee members the current difficulties with getting through the IRB process at their institution. The new changes in the rules and

regulations governing the IRB process are making it very difficult for researchers to study their own teaching and to collect K-12 student data. This later difficulty is resulting in smaller than desired study population sizes - a real concern as the requirement for large quantitative studies are being pushed. Based on these comments the committee is considering sponsoring one or more sessions about navigating the IRB process; this might be helpful for both our national and international members. We invite participation by all NARST members. If you have comments, ideas, or would like to be involved in one of these IRB sessions, feel free to contact the committee chair, Pamela.abder@nyu.edu.

JOURNAL OF RESEARCH IN SCIENCE TEACHING (JRST)

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JRST COMMITTEE NEWS

The Journal of Research in Science Teaching [JRST], under the new editorial leadership of J. Randy McGinnis (University of Maryland) and Angelo Collins (Knowles Science Teaching Foundation) is pleased to report that our new online submission and peer review web site is working out well. We encourage all NARST members to visit our site at <http://mc.manuscriptcentral.com/jrst> to submit original manuscripts for review and/or to register as a new JRST reviewer.

Since January 1, 2005 when we launched our new electronic submission, review and communication system, we have processed over 80 new manuscripts that are currently in various phases of the review process (with reviewers, associate editors, or editors-in-chief). In addition, we ask those authors who may be in the process of revising earlier submitted manuscripts that were reviewed by the JRST Arizona Editorial Team led by Co-Editors Dale R. Baker and Michael Piburn and were not accepted but were encouraged to revise and resubmit to do so electronically. Please include in your cover letter the following information: your original JRST manuscript number and detailed information as to how you have revised your manuscript based on the earlier

publication decision letter.

Finally, we would like to remind all interested authors that JRST uses a masked review policy that conforms to the Fifth Edition of the Publication Manual of the American Psychological



Departing editors of Journal of Research in Science Teaching, Dale Baker and Michael Piburn with their plaques at the annual meeting

Association. As result, we ask that all authors follow the necessary steps to conceal their identify in their submitted manuscripts. This includes placing all acknowledgements as an author note that is included in a separately submitted cover letter rather than in the body of the manuscript.

All comments and inquiries should be addressed to:

Journal of Research in Science Teaching

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JRST Publication

The Journal of Research in Science Teaching (JRST) is the official journal of the National Association for Research in Science Teaching (NARST).

JRST seeks to publish the highest quality articles on issues of science teaching and learning, as well as in the broader context of science education policy. The manuscripts published in JRST are judged to be acceptable by the Editorial Team with the assistance of the Editorial Board.

The target population of JRST is science education researchers and practitioners. JRST has a circulation of approximately 2,500. JRST has been ranked as one of the highest educational journals according to studies published by Ward, Holland, and Schramm (American Educational Research Journal) and Guba and Clark (Educational Researcher) for the American Educational Research Association. These studies identified JRST as clearly the top research journal in science education.

JRST (ISSN: 0022-4308) is published monthly, except June and July, one volume of ten issues per year, by John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, USA.

Types of Submissions

Articles on a variety of subjects may be submitted for publication in JRST. However, manuscripts currently under consideration by other journals may not be submitted to JRST. Persons may submit a variety of materials for publication in JRST. Manuscripts can assume (but are not limited to) the following forms.

Articles

Many types of scholarly manuscripts

about research on science teaching and learning are within JRST's domain, including, but not limited to:

- investigations employing experimental, qualitative, ethnographic, historical, survey, philosophical, or
- case study research approaches; position papers;
- policy perspectives; and critical reviews of the literature.

Authors should discuss the importance of the study for science teaching and learning. They should provide a link between the problem and the study design. They should also establish a relationship between the study and previous work. The guiding theoretical framework should be explained and justified. Methodology should be reported in a concise manner. If used, data tables should be easy to read, complete, and add to the understanding of the study.

Quotations from various sources should be used to support the author's assertions. These quotes should be adequately referenced. The implications should be clearly presented. The article should be easy to follow. The genre chosen (e.g., expository, narrative) should be appropriate for the study. The writing style should be concise and arguments clear.

Comments and Criticism. These should contain expressions of opinion or information relating to articles published previously or to matters of interest to science educators. This section of JRST will be the forum where the readers may express any reasonable view on any relevant matter. Submissions for "Comments and Criticism" should not typically exceed 1000 words (including

references). A copyright transfer agreement is required; however, an abstract is not. All other instructions for submitting a manuscript apply here and should be followed accordingly.

Manuscript Style

Manuscripts submitted to JRST should be prepared according to the style prescribed by the fifth edition of the Publication Manual of the American Psychological Association (American Psychological Association, 2001). Follow the Manual explicitly with regard



Three Board members, Zoubeida Dagher (departing Chair of Awards Committee), Gail Richmond (departing Chair of Research Committee), and Penny J. Gilmer (Chair of Publications Advisory Committee)

to (a) the content and organization of the manuscript; (b) writing style, grammar, and use of nonsexist language; and (c) punctuation, spelling, capitalization, use of italics, abbreviations, headings, quotations, tables, figures, references cited in the text, and the reference list.

Wiley's Journal Styles Are Now in EndNote.

EndNote is a software product that we recommend to our journal authors to help simplify and streamline the research process. Using EndNote's

bibliographic management tools, you can search bibliographic databases, build and organize your reference collection, and then instantly output your bibliography in any Wiley journal style. To download the reference style for this journal, or to purchase a copy of EndNote, go to the following URL: <http://www.interscience.wiley.com/jendnotes>

Technical Support for Using EndNote: Contact endnote@isiresearchsoft.com, or visit <http://www.endnote.com/support>. References should follow the APA style, but without the use of italic type. Examples follow:

Journal: Lederman, N.G., & O'Malley, M. (1990). Students' perceptions of tentativeness in science: Development, use, and sources of change. *Science Education*, 74, 225-239.

Book: Kuhn, T.S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago: University of Chicago Press.

Edited Book: Moscovici, S. (1984). The phenomenon of social representations. In R.M. Farr & S. Moscovici (Eds.), *Social representations* (pp. 3-69). Cambridge, UK: Cambridge University Press.

Manuscript form

Manuscripts should be computer-generated, and double-spaced (including quotations, footnotes, and references) on standard 8-1/2 × 11 paper, with ample margins. Typical page length is between 15 and 40 pages, but JRST will publish longer manuscripts of important and ground-breaking research.

Include a separate cover page that states the title of the manuscript; names of all

authors; contact author's phone and fax information; and current mailing and e-mail addresses for all authors. To ensure author anonymity, this is the only place in the manuscript where the author's (authors') identity information should appear. (See guidelines for author anonymity.)

All manuscript pages, including tables and figures, must contain a page number and an identifying phrase (running head) as per APA style.

Submitted manuscripts should contain copies of tables and figures. Originals are needed only at the time of final processing of accepted manuscripts. Please do not embed tables and figures in the text, but submit each item on a separate page as per APA recommendations.

All color figures will be reproduced in full color in the online edition of the journal at no cost to authors. Authors are requested to pay the cost of reproducing color figures in print. Authors are encouraged to submit color illustrations that highlight the text and convey essential scientific information. For best reproduction, bright, clear colors should be used. Dark colors against a dark background do not reproduce well; please place your color images against a white background wherever possible. Please contact Alyson Linefsky at 201-748-6723/alinefsk@wiley.com for further information.

The Publication Manual of the American Psychological Association may be ordered from APA Book Order Department, P.O. Box 92984, Washington, DC 20090-2984, USA. Orders from the United Kingdom, Europe, Africa, or the Middle East should be sent to the American Psychological Association, 3 Henrietta Street, Covent Garden, London, WC2E 8LU, United Kingdom.

Submitting a Manuscript

Online Submission and Peer-Review

In taking a step toward expediting the publication process, the Journal of Research in Science Teaching (JRST) is now pleased to offer web-based submission and peer-review.

To submit your manuscript online, please:

1. Prepare your manuscript and illustrations in appropriate format, according to the instructions given below. Please also be sure that your paper conforms to the scientific and style instructions of the Journal.
2. If you have not already done so, create an account for yourself in the system at the submission site, <http://mc.manuscriptcentral.com/jrst> by clicking on the "Create an Account" button. To monitor the progress of your manuscript throughout the review process, just login periodically and check your Author Center.
3. Please be sure to study the Instructions and Forms given at the site carefully, and then let the system guide you through the submission process. Online help is available to you at all times during the process. You are also able to exit/re-enter at any stage before finally "submitting" your work. All submissions are kept strictly confidential. If you have any questions, do not hesitate to contact support@scholarone.com for assistance with Manuscript Central.

Please Note: If authors are unable to submit online (this must be discussed with the JRST Editorial Office and

authors be given permission to submit in an alternative manner) please follow below Instructions in Section 6 for manuscript preparation. Manuscripts not submitted online as well as general correspondence concerning submissions should be directed to:

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Dr. J. Randy McGinnis and Dr. Angelo Collins, Editors
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Facsimile: 301-314-9389
E-mail: jrst@umd.edu

All other correspondence should be addressed to the Publisher, Wiley Periodicals, Inc., 111 River Street, Hoboken, NJ 07030

In rare instances when authors are unable to submit online (prior approval from the JRST Editorial Office is required), manuscripts must be submitted as follows:

- (a) A cover letter indicating to whom all correspondence should be forwarded. Please provide a complete surface or airmail address, including mail codes and country designator. Also, include your e-mail address, telephone number and/or facsimile number.
- (b) Six copies of the manuscript, including a 100–200 word abstract. Laser-quality print is preferred.
- (c) Two self-addressed, stamped envelopes (does not apply to international contributors).
- (d) A signed copy of the Copyright Transfer Agreement (permission granted to copy the agreement from the back of the Journal. The agreement may also be accessed from the JRST website at: <http://www.interscience.wiley.com/jpages/0022-4308/>).

(e) A biographical resume of all authors (including name, position, office address, degrees, and institutions).

Authors should retain original figures, tables, and artwork. These will be requested if the manuscript is accepted for publication.

Mail all submissions to the JRST editor at the editorial office. The author will receive notification of the receipt of a submission within 2 weeks.

The Review Process

Articles submitted to JRST are reviewed anonymously (masked

review) by two to three reviewers (one always is an editorial board member). A tracking editor is selected from among the associate editors. The tracking editor and at least one of the reviewers possess expertise in the domain of the manuscript. All manuscripts are evaluated for their significance to science education and on their technical quality for the type of scholarship represented. All submissions are acted upon as quickly as possible. The review process normally takes approximately 16-20 weeks.

Acceptance and Publication

Manuscripts accepted for publication are published in about one year. The author will receive galley proofs of the article to read and correct. The author will receive 25 reprints of the article at the time the article is published. Additional reprints can be ordered and purchased directly from the publisher by filling out the form attached to the galley proof. Under the provisions of the U.S. copyright law, the transfer of the copyright from author to the publisher, heretofore implicit in the submission of a manuscript, must now be explicitly transferred to enable the publisher to publish and disseminate the author's work to the fullest extent.

Publications Advisory Committee

Penny J. Gilmer, Chair

The Publications Advisory Committee advises the NARST Executive Board on these issues related to publications. This includes our premier journal, *Journal of Research in Science Teaching (JRST)*, *E-NARST News*, *PEERs Matter*, and our NARST Website <http://www2.educ.sfu.ca/narstsite/>. I address each of these issues below.

In January 2005, we have two new editors of JRST: J. Randall McGinnis (University of Maryland) and Angelo Collins (Knowles Teaching Foundation). The entire process of submitting and reviewing manuscripts is available on-line. Randy and Angelo have a report within this *E-NARST News* updating their activities. I would also like to thank our wonderful retiring JRST editors, Dale Baker and Michael Piburn, both from Arizona State University, for five dedicated years of service to NARST.

On *E-NARST News*, earlier this year in 2005, we had our first electronic newsletter, called *E-NARST News*. Before that all NARST News were print copies, mailed to each member.

By having them electronic, NARST members will receive the news much faster, and you will have an electronic copy, as that will be e-mailed to the entire membership (print copies will be sent by regular mail to the NARST members that do not have e-mail). In addition, I have started to add some digital pictures from the annual meeting. *E-NARST News* is always available through the NARST Web site, in case you lose your electronic copy or you want to access it somewhere else. Members of this committee review the draft issue before we distribute it to all NARST members. We have two issues per year, one in January and one in July. This is our second electronic issue. Penny J. Gilmer, Chair of the Publications Advisory Committee, is the Editor of *E-NARST News*, so if you have any comments on it, please e-mail me at gilmer@chem.fsu.edu. I would also like to thank Randy Yerrick (San Diego State University) and Helen Parke (East Carolina University) for their years of editorship of the NARST News.

On the NARST Web site, NARST Board members provide updates to

the existing NARST Web site at each NARST Board meeting. I funnel the changes to our NARST Webmaster, Eric Simons, who works with David Zandvliet, NARST's Electronic Services Director. Please let me know if we can make the Web site more useful and accessible to you.

On the *PEERs Matter* issue, Patricia Simmons (University of Missouri-St. Louis), our NARST-NSTA Research Coordinator, has arranged for NSTA to publish all the accepted articles in a book format. It became too complicated to have the originally planned on-line version, so there will be a print version available through NSTA.

This is my final year serving on the Board. Thank you for electing me. I hope that I have served you well. Barbara Crawford (Cornell University) just joined the NARST Board this year, and she is co-chair of this committee for this year, learning the ropes of what needs to be done. She will chair the committee for the next two years. I am pleased to work with her, and I know the NARST membership will be in good hands.