2000

NARST Meeting of the Board of Directors

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President Report
Sandra K. Abell
October, 2000

Affiliation Reports

CSSP. I attended my third Council for Scientific Society Presidents meeting in May, 2000, as NARST Representative. Norm Lederman is taking this over this responsibility for the December meeting and beyond. The NARST budget allocates funds for CSSP dues and the representative's travel. Other education societies represented include AETS, NABT, SSMA, and NCTM.

NSTA. In June, 2000 I attended an orientation to the NSTA board in Washington, DC. This is the first year for NSTA's new structure to take effect. Members of the new "council," including the district directors and affiliate representatives, spent part of the orientation making sense of our roles and responsibilities. In July we attended the NSTA congress, council, and board meetings in Williamsburg, Virginia. The affiliate presidents drafted a set of guidelines for affiliate representatives that has been forwarded to the NSTA President and President-elect. It is likely that NARST will have a representative on the NSTA Research Committee. In the past it appears that the NARST Research Coordinator is the designated representative to the committee. Do we want to continue this? NSTA pays all expenses for the NARST President to attend board meetings, but no expenses are allocated for the national meeting for the president or the Research Committee representative. How would the board like to handle this?

AAAS Representatives. NARST is allowed 2 representatives to AAAS committees. I appointed Marcia Linn to represent NARST to the Section Q, Education committee, and Kate Scantlebury to the Section X, Societal Impacts of Science and Engineering Committee. No funds from the NARST budget are provided for this. These appointees were asked to serve through Feb, 2003.

Old Business

Executive Secretary (with David Treagust and Norm Lederman). In August, I was pleased to announce to the membership our new Executive Secretary, David Haury, Ohio State University. The board unanimously approved David's application over email. Thank for your timely responses. David and OSU agreed to commit to the present financial arrangements with NARST for one year. By next April, we need to either extend a new financial agreement to David and OSU, or have a new Executive Secretary search in place.

NARST Web Site (with David Treagust). Beth and Karl Klein brought the new NARST web site on line in August. The look of the site is very professional, and the access to NARST information quite user-friendly. Board members were asked for their suggestions and additions this summer, but if you have any ideas to pass along to the Kleins about other information that needs to be available at the site, please do so. At my

request, the Director of Electronic Services, Beth Klein, has prepared a budget request (see attached or report of Publications Committee).

Annual Meeting Sites, 2002, 2003. NARST has been working with Mark Bostwick of Conferon, a sort of travel agent for meeting planning (see attached brochure) to secure venues for the 2002 and 2003 annual meetings. After lengthy email discussion and voting, the board approved the 2002 meeting to take place at the New Orleans Hyatt. AERA is April 1-5, 2002 in New Orleans. The NARST Annual Meeting will be April 7-10, with the board meeting on April 6. The contract is attached.

Mark is currently working to secure at least 2 bids for 2003 in Philadelphia, in association with NSTA, which will meet March 27-30. Kim Nichols, NARST Annual Meeting Coordinator, will be making site visits and presenting the options for 2003 venues for board vote.

Ad hoc Committees. At our April board meeting we did not renew two ad hoc committees, Post Secondary Education, and the New Generation of Researchers. At that time it was suggested that the chairs of these committees felt the committees should continue. I have asked for input from the Post Secondary committee chairs, but have received none. I believe that the decision to not renew should hold. In conversations with Maureen McMahon, past chair of the New Generation committee, we agreed that although the committee was not needed, we did need to find a way to institutionalize the annual meeting events sponsored by the committee. I would recommend that we postpone this discussion until we hear the report of Retreat Team #1 (research) in the coming days, but that we create a structure to ensure the activities established by the ad hoc committee continue.

New Business

NARST News Editors. The terms if the current NARST News editors expire after the Spring 01 Newsletter. The current editors, Helen Parke at East Carolina University and Randy Yerrick, San Diego State University, have agreed to continue to serve another 4-year term, if the board so desires. Or the board will need to constitute a search for new newsletter editors. I propose that we hold on this issue until after we have had a chance to discuss all NARST positions at the strategic planning retreat, or ask Randy and Helen to serve for a shorter time frame.

Strategic Planning Retreat. Since May I have spent considerable time in planning and preparing for the strategic planning retreat, which will occur directly after this board meeting. I am excited about the possibilities for the NARST board to examine the structure, function, and management of the organization and plan for ways to do our business more effectively in the future. Thanks to all of those who have been contributing to this planning process.

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Tradeshow Sales & Management

Ancillary Service Supplier Selection& Negotiations
Marketing Communications, Graphic Design & Public Relations Support

Customized Site Research
Since Conferon has extensive experience coordinating meetings in virtually every meeting property nationwide, your organization will benefit from our invaluable first-hand knowledge of site locations. Conferon's unique proprietary database contains detailed information on the nation's best meeting hotels and convention facilities, including comprehensive facility specifications details, and comprehensive group rate quote histories for rate benchmarking purposes – another Conferon exclusive service. Our site research system quickly pinpoints the potential hotels and facilities that meet your needs, checks availability, assembles current rate quotes and summarizes all critical criteria in an easy-to-read synopsis. Every detail you need to make an informed decision is included, resulting
in the selection of the venue perfectly suited for your event.

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Put our contract experience to work for you!
You are always assured of accurate, industry-leading, liability-reducing contracts when you use Conferon's contract services. Our contract department processes over 1,200 hotel contracts per year and we are at your service to review your contract, not as a legal advisor, but as your agent, to apply prevailing industry standards to help ensure your protection. Only Conferon can offer a portfolio of standardized contracts developed in partnership with most hotel chains to streamline the negotiation process. This exclusive service permits accurate customization and significantly speeds up the negotiation process. Our exclusive, long-term partnership agreements with most major hotel chains guarantee that our customers will never pay more due to Conferon's commissionability.

Detailed Pre-Event Planning & Consulting
Let Conferon's dedicated account planning teams design and implement a detailed program just for you and save valuable time, effort, and expense. The result will be a complete and accurate meeting agenda, your comprehensive management and operations guide specifying each and every logistical detail from start to finish.

Attendee-Pleasing Registration Support
Save time, energy and avoid costly mistakes. Our experienced registration department will work with you to custom design your registration process for maximum efficiency and ease of use, prepare all event badges and tickets, and deliver comprehensive reporting in the formats that most closely match your needs.

Lead Retrieval for Exhibitor Satisfaction
Provide your exhibitors with state-of-the-art technology to capture prospective customer information. Through the use of bar-coded attendee badges and hand-held laser scanners, your exhibitors can gather critical customer data quickly and without intrusion.

Accurate Housing Services
Get relief from your housing headaches and benefit from improved and accurate "hotel pick-up" when you work with Conferon. Our unique and precise sign-up/reservation services will provide you and your attendees with a convenient, carefree housing experience from start to finish.

Professional On-Site Management
Our behind the scenes on-site assistance enables you to spend less time managing the mechanics of your meeting and more time on the front lines guiding the program and content of your meeting. We know what works and how to apply solutions to ensure your meeting success.

Revenue-Generating Tradeshow Sales & Management
Corcoran/Conferon Expositions LLC helps "grow your show" by managing all exhibits-related facets of your tradeshow. We can handle it all—from time-intensive space renewal and telemarketing sales, to floor management,
and the creation of exhibitor kits and show guides.

Ancillary Service Supplier Selection & Negotiations
Eliminate the frustration and endless phone calls of searching for the best suppliers in the industry for your event. Conferon's supplier division will assist you in locating the services you need—from audio/visual services and DMC's, to entertainment and speakers.

Action-Oriented Marketing & Graphic Design
Marketing Resource Associates (MRA) creates graphically-appealing, yet affordable attendee and exhibitor promotion packages using the most effective direct mail and electronic techniques. MRA specializes award-winning graphic
design, event promotion, direct mail, web site design, public relations, advertising, marketing strategy and support.

Our clients meet with success (R)

Let Conferon be your key to success!

To find out how, contact the following Conferon representative:

An official member of the *Conferon Sales Network*

Visit our website at www.conferon.com

Conferon Corporate Headquarters
2500 Enterprise Parkway East
Twinsburg, OH 44087-2337, USA
Phone: (330) 425.8333
Fax: (330) 425.FAXX

Regional Service Centers
Chicago Denver St. Louis Washington, DC

Director of Electronic Services Budget Request
September 11, 2000

Budget requests:

Part-time student assistant (5 hrs/week) cost estimation: $1917

Individual would work with the Electronic Services Director and Webmaster in assisting in the handling email questions, upgrading listserv information, maintaining changes to the NARST web site (i.e., job announcements, conference information, and papers). This would allow the Electronic Services Director and Webmaster to concentrate on service upgrades, addition of web-based forms and forums, and web site modifications to meet new ADA web site guidelines.

Currently the NARST Electronic Services budget is at $3000. We are requesting that it be raised by $1417 to accommodate the part-time student assistant. This leaves $2500 for software and hardware upgrade funds.

Dr. Elizabeth (Beth) Shiner Klein
Assistant Professor of Science Education
SUNY-Cortland
PO Box 2000
Cortland, NY 13045
607.753.5681
kleine@cortland.edu
http://education.cortland.edu/faculty/kleine

Hyatt Regency New Orleans
500 Poydras Plaza
New Orleans, LA 70113

GROUP SALES CONTRACT

September 7, 2000:
GROUP NAME: National Association for Research in Science Teaching
GROUP CONTACT: Dr. David Haury
GROUP ADDRESS: Ohio State University, 1929 Kenny Road Columbus. OH 43210

GROUP PHONE: (614) 292-6717
FAX: 765.496.1622
E-mail: haury.2@osu.edu
HOTEL CONTACT: Tricia Dillard
HOTEL CONTACT PHONE 504.587.4100
FAX: 504.523.0488
FUNCTION NAME: **2002 ANNUAL CONFERENCE**
OFFICIAL EVENT DATES: **April6-10, 2002**

NARST ("Group") and HYATT REGENCY NEW ORLEANS ("Hotel") agree as follows:

DATE AVAILABILITY

The Hotel agrees to hold the space listed below on a tentative basis until September 28, 2000. If the Hotel does not have a signed contract on this date, the Hotel will release the space for sale to the public. If a request is received more than 72 hours in advance of this date by another party, the Hotel will notify Group and Group will have 72 hours from the time of notification by the Hotel to confirm by signature of this agreement or release the space.

ROOM BLOCK

Day	Fri	Sat	Sun	Mon	Tues	Wed	Thur			
Date	4/5/02	4/6/02	4/7/02	4/8/02	4/9/02	4/10/2	4/11/2			
Single										
Double	50	250	350	350	300	100	C/o			
Suites	1	1	1	1	1	1	1			

Total Rooms	52	252	352	352	302	102	2	C/o		

The Hotel and the Group agree that the above room block shall be reserved for the Group at the guest room rates agreed to by the parties in this contract subject to the terms and conditions of this contract.

GUEST ROOM RATES

The Hotel's current rack rates are as follows:

Guest Rooms

Single Occupancy:	$229.00
Double Occupancy:	$254.00
Triple Occupancy:	$279.00
Quadruple Occupancy:	$304.00
Suites	
One-bedroom Loyola:	$400.00
One-bedroom VIP Suite:	$525.00
Two-bedroom VIP Suite:	$625.00

The Hotel is pleased to confirm the following guest room rates for 2002:

Guest Rooms

Single Occupancy:	$139.00
Double Occupancy:	$149.00
Triple Occupancy:	$159.00
Quadruple Occupancy:	$169.00
Suites	$295 & up

Regency Club accommodations are offered at an additional charge of $35.00 per room based on availability.

Business Plan accommodations are offered at an additional charge of $20.00 per room based on availability.

RATE INFORMATION

All suite prices are quoted with one bedroom. These rates are subject to the appropriate state, local and any occupancy taxes in effect at the time of the Group's meeting. These taxes are currently [(12 %)and $3.00per room night occupied.

Hotel agrees that Group's single/double rate will be no higher than the average daily single/double rate of any other like group, defined as:

a) Groups whose meeting dates fall in the same period (i.e., from 15 days prior to 15 days post). Exceptions include holiday periods and changes in selling season.
b) Groups having a similar food and beverage arrival/departure pattern, and comparable or fewer overall guest rooms blocked.
c) Groups booked over six (6) months in advance of the meeting dates. Exception: room blocks permanently guaranteed for contract clients (i.e., for airlines, corporate volume contracts, etc.).

COMMISSIONABLE

Room rates are commissionable at 10% to Conferon, Inc. Hotel agrees that the commission paid by Hotel to Conferon for booking this meeting, as authorized agent of record, will not be reflected or passed on to the Group in the form of higher room rates charged. Hotel and Group further agree that commissionability for the booking of this meeting is noncancelable and nontransferable to another party. Said commissions shall be paid no later than 30 days after the payment in full of the Master Account.

RESERVATION METHOD AND INFORMATION

Check any that may apply:

Rooming List	Individual Call-in	Reservation Card	Conferon Housing	Own Form	Housing Bureau
x	x	x			

Hotel agrees to send, at no charge, confirmation of reservations and/or reservation changes to the registered guests within seven (7) days of receipt of such information.

The room block and reservation procedures will be available through all of Hyatt's normal distribution channels.

If reservations are to be made by reservation card, Hotel will provide self-addressed reservation reply cards complimentary, equal to three (3) times the number of guest rooms blocked on Group's peak night. Additional cards will be provided at the cost of printing.

Requests for room assignments may also be made by calling Hotel's toll-free number 1-800- 223-1234.

If the Group uses its own form, the Hotel must review the reservation form prior to mailing to Group's members. This will allow us the opportunity to review for completeness and accuracy.

Hotel will provide to Group a list of all rooms coded to Group on its peak night. Group will compare the peak night rooms occupied list of attendees coded to Group with Group's list of registrants. The list of those meeting attendees not identified on the Hotel's group list will be submitted to the Hotel and the Hotel will check that list against its total in-house list for that peak night. Any guest room occupied by an individual on Group's exception list, but not coded to Group within the Hotel's system, will be credited to Group's pickup and will be commissionable* to Conferon. * A miscoded room will be commissioned to Conferon except when the payment of such commission will cause the net rate of the room to become less than the net rate provided for in this contract or when the reservation is already commissionable through another travel agency.

Individual check-in prior to Hotel's published check-in times is subject to availability. Check-in Time 3:00pm Check-out Time 12 noon

DISHONORED RESERVATIONS

If the Hotel is unable to provide a room to a Group attendee holding a confirmed reservation, Hotel will, at its own expense, provide comparable accommodations and transportation to and from the substitute hotel for each day during which Hotel cannot provide the room. Additionally the Hotel will provide two complimentary five (5) minute phone calls. Upon return to the Hotel, Hotel will provide a note of apology and every attempt will be made to place the guest in an upgraded accommodation.

CUTOFF DATE

All individual reservations and/or rooming lists must be received at the Hotel on or before the cutoff date of March 15, 2002. Any reservations which are not received on or before the cutoff date will be accepted by the Hotel on a space available basis at the best available rate at the time of reservation. Hotel will extend the group rate 3 days before and 3 days after Group's room block dates, subject to availability.

COMPLIMENTARY ROOMS

The Hotel agrees to provide the Group with one (1) complimentary unit per every 50 paid rooms occupied on a cumulative basis. This shall be computed by adding together the total paid room usage and dividing by 50. These credits for units may be applied as follows:

Room Type	Units Applied
One Guest Room	1 unit
One Loyola Suite	2 units
One-bedroom VIP Suite	3 units
Two-bedroom VIP Suite	4 units
Regency Club Room	2 units

Complimentary room units not used shall be credited to the Group's master account at the rate of $40.00 per room night.

- Three (3) staff rooms offered at 50% off group rates from 4/3-12/02.I

In the event that the Group picks up a minimum of eighty-five percent (85%) of the aforementioned room block, the Hotel, as a special consideration to the Group, will provide the following for use by the Group over and above the complimentary/reduced rate rooms above:

- One (1) 2BR Deluxe Suite complimentary from 4/3-12/02
- Twelve (12) upgrades for Board @ group rate from 4/4-12/02
- Complimentary coffee break per parameters below in Catering section.

The Conferon representative(s) will receive, over and above any other concessions in this contract, one complimentary room arriving up to two (2) days prior to and departing up to one (1) day following the meeting dates.

Hotel will provide one (1) active complimentary house phone that has outside call capability. Group will pay for all outgoing calls at prevailing Hotel rates.

There will be no charge for pencils, pads, and pens provided by Hotel in function rooms that are not set theater style.

Hotel will provide complimentary easels outside of function room and in hallways or foyers for signage placement, not to exceed Hotel's inventory.

There will be no charge for receiving and handling of the Group's registration and meeting materials.

DEPOSITS

A deposit equal to [one] night's stay for each of the confirmed rooms will be due from individuals attending the meeting/event 14 days after room is confirmed by the Hotel but no later than the cutoff date specified above. All deposits for individual room reservations are fully refundable if a room is canceled three (3) days or more prior to the arrival date. Personal checks, money orders or a valid American Express, Diners Club, Visa or Mastercard number and expiration date will be needed for the deposit. The Group remains bound, however, by any liquidated damage provision of this agreement.

PAYMENT PROCEDURE

Check all that apply.

Group Responsible for:	Room and Tax o	Incidentals o	Master Account oxx
Individuals Responsible for:	Room and Tax oxx	Incidentals oxxx	

ROOM AND SPACE BLOCK REVIEW

The Group and Hotel agree to review the room and space commitment on or before the following dates:

a. Twelve (12) - months out
b. Six (6) - months out
c. Three (3) - months out

On these dates the parties will evaluate the room and space commitments based on research of the Group's previous usage, current pickup to date and other relevant factors. If necessary, and subject to availability, Hotel and Group will agree in writing to any adjustments to the room and space block. All room and space commitments will be finalized on the date set forth in **(c)** above.

ROOM BLOCK ATTRITION

This Agreement and the guest room rates negotiated are based on the Group using its best efforts to use and pay for the final Group Block agreed upon on the date set forth in (c) above in Room and Space Block Review. However, should the Group not use and pay for 85% of the final Group Block, the Group shall pay the Hotel a fee of the lost profit on the rooms revenue: 75% of the Group's single room rate for every room night not actualized below 85% This charge will only apply to rooms that are not resold and to rooms that remain available for sale. Group will not be charged for more rooms on a particular night than Group had blocked on such night.

These charges are subject to Hotel's duty to mitigate its damages by making a reasonable effort to resell the rooms not utilized. Prior to the billing and payment, Hotel must submit to Group a copy of Hotel's city ledger or daily report showing the rooms that were not resold and were available for sale. Hotel agrees that after receipt of this payment, it will not seek additional damages for not utilizing the full room block.

CREDIT ARRANGEMENTS

In the event that the Group wishes to set up direct billing for the Master Account, a credit application must be completed and returned no later than three (3) months prior to arrival in order to be processed for approval. Credit procedures are provided by the Hotel upon the request of the Group for a credit application.

Previous History:

Hotel	Dates	Meeting Name
St. Louis Hyatt	4/01	2001 Annual meeting
New Orelans Radisson	4/00	2000 "
Boston Park Plaza	4/99	1999 "

Bank: _____

Credit Card:_____ Name on Card:_____

Account Number:_____ Exp. Date:_____

Person(s) authorized to sign master account: _____

_____

In the event that credit is not requested or is not approved, payment of 80% of the Group's total estimated Master Account will be due to the Hotel two (2) weeks prior to arrival with the balance due upon departure. Failure to remit the appropriate payment on a timely basis will result in a breach of contract.

If credit is approved, undisputed amounts invoiced but not paid within thirty (30) days of the date of receipt of invoice will be assessed an interest charge equal to one and one-half percent (1-1/2%) per month or the maximum allowed by state law.

SCHEDULE OF EVENTS

The Hotel will hold space according to the attached Program of Events

FUNCTION SPACE ARRANGEMENTS

The Group agrees to promptly notify the Hotel of any changes in its function or meeting space requirements. All fees for meeting and function space are subject to appropriate federal, state and local taxes.

This booking by Group is based upon Hotel's agreement to provide the specific function space assignments and/or minimum square footage and ceiling height requirements specified in this contract. No changes will be made to function space assignments without the written consent of both parties.

Hotel will provide one complimentary microphone and hotel sound system in each function room set for 60 or more people for each day requested, provided the function room has a built-in sound system and the Hotel's in-house AV company is used.

NARST OR National Association for Research in Science Teaching is the only name having to do with this meeting that is permitted to appear on Hotel reader board, marquee, portfolio, and any invoices. Conferon is not the client and its name cannot appear on any of these documents or displays.

A complete line of audiovisual equipment is available through the Hotel. To ensure availability of equipment, all orders must be received three (3) days prior to each function. Estimated costs will be provided by the Hotel's on site Audio/Visual company, Royal Audio Visual, at the time the equipment needs are submitted. Arrangements will be made with third parties for items which the Hotel cannot supply. Group reserves the right to utilize the supplier of its choice for services or rentals in the areas of audiovisual, exhibit decorating, security, floral, transportation, tours, etc. Any possible surcharges from Hotel or from its in-house supplier resulting from the use of outside third parties must be agreed to in writing by both GROUP and HOTEL.

CATERING

All Food and Beverage arrangements must be made through the Hotel. Licensing restrictions require that only Hyatt purchased food and beverage can be served on Hotel property. The Hotel reserves the right to cease service of alcoholic beverages in the event that persons under the state mandated age limit are present at the function and attempt to receive service of alcoholic beverages.

Menu pricing will be guaranteed to increase no more than FIVE PERCENT (5%) from 2001 Banquet menu pricing. Where food and beverage functions have been scheduled, the number of people indicated to attend will be considered the final guarantee, not subject to reduction and charges will be made accordingly, unless the Hotel is notified no later than [two (2)] working days in advance. The Hotel will set and be prepared to serve five percent (5%) over this guarantee.

Waitstaff at all meal functions: there will be at least one (1) wait person for every

Sit-Down or Plated Meal	Buffet Meal
25 guests at breakfast	40 guests at breakfast
20 guests at lunch/dinner	30 guests at lunch/dinner

There will be no extra service or labor charges for these service ratios.

At all functions catered by Hotel where alcohol is served, there will be no less than one (1) bartender for every 75 people for hosted bars and one (1) bartender for every 100 people for cash bars, and there will be no bartender or server fees. Hotel shall adhere to all federal and state laws regulating the sale and service of alcoholic beverages.

Hotel will supply an inventory sheet of all chargeable beverages to the Conferon representative before each cocktail function. Conferon will supply the pour tops for liquor and conduct an opening and closing inventory.

If a minimum of 25 meals are not purchased for a sit-down meal function, there will be a service fee of $75.00. There will be no other special labor or service fees on other events.

The Hotel offers a full service off-premises catering operation to service events held at major locations. The Group agrees to provide the Hotel with the first option to bid on catering services at any off-premise event sponsored by the Group during or in conjunction with the Group's meeting.

Based on the attached Program of Events, a minimum of $ 35,000 will be spent on banquet food and beverage for your function(s). This minimum does not include service charges, taxes, labor charges, restaurant charges, audio/visual charges or any other miscellaneous charges. Food and Beverage tax is currently 9.5%, Food and Beverage gratuity is currently 19% and is taxable.

If Group's total actual food and beverage revenue slips below this amount, Group agrees to pay as liquidated damages (agreed not to constitute a penalty) the lost profit on the food and beverage revenue: 30% of the difference between the agreed minimum and the actual total food and beverage revenue. Group also agrees that, with respect to Guaranteed Functions, Group will pay for the greater of (1) actual attendance or (2) the guaranteed attendance, with the revenue from such payments counting towards the satisfaction of Group's minimum total food and beverage revenue commitment.

***Should the Group reach or exceed $35,000 in food and beverage revenue, the Hotel will sponsor a coffee break of the group's choice not to exceed FOUR THOUSAND DOLLARS ($4000.00) exclusive of applicable taxes and service charges.**

DELIVERIES

Special arrangements must be made for receiving any equipment, goods, displays or other materials which will be sent, delivered or brought into the Hotel. (This excludes delivery of any food or beverage items that are also sold or furnished by the Hotel. The Hotel will not accept delivery of such items.) Failure to do this may result in deliveries being refused or materials being unavailable when 8:006:00 p.m., Monday through Friday. Any materials being sent to the Hotel must be marked as follows:

1. Hold for Arrival - Attn.: Guest's Name, Organization Name
2. Complete Return Address
3. Hyatt Convention Services Manager's Name
4. Number of Boxes (Example: Box 1 of 2 and Box 2 of 2)
5. Address Package to Hotel as follows: Shipping/Receiving Department
   Hyatt Regency New Orleans
   500 Poydras Plaza
   New Orleans, LA 70113-1805

Handling charges may apply. The Hotel does not accept any liability for equipment, goods, displays, or other materials which arrive unmarked or fail to arrive at the Hotel. The Group is responsible for insuring its property for loss or damage.

CANCELLATION

Group agrees that it has no right to cancel this agreement for the purpose of changing its meeting site to another city or location. However, if Group cancels this agreement anytime after the confirmation of this contract, liquidated damages shall be paid by the Group to the Hotel based upon the following schedule. This amount is agreed not to constitute a penalty.

Date of signature to 365 days prior	10% of estimated total room profit *
From364days to 180 days prior	50% of estimated total room profit *
From 179 days to 90 days prior	75% of estimated total room profit *
From 89 days to 0 days prior	100% of estimated total room profit *

*less profit from rooms that are available for sale and are resold. "Profit" is defined in this section as 75% of the Group's single room rate.

These charges are subject to Hotel's duty to mitigate its damages by making a reasonable effort to resell the canceled rooms. Prior to the billing for the cancellation payment, the Hotel must submit to the Group a copy of the Hotel's Daily Report showing the rooms that were not resold and were available for sale. The charges for any one night will not exceed the room revenue profit anticipated for the number of rooms that Group had blocked on that night. Hotel agrees that after receipt of the cancellation payment it will not seek additional damages.

RIGHTS OF TERMINATION FOR CAUSE

Except as otherwise provided in the Contract, neither party shall have the right to terminate its obligations under this Contract. This Contract is, however, subject to termination for cause without liability to the terminating party, under any of the following conditions:

a. The performance of this agreement by either party is subject to acts of God, war, government regulations, disaster, strikes or threat of strikes (exception: Hotel may not terminate this contract for situations involving the Hotel's employees), civil disorder, curtailment of transportation facilities, or any other emergency making it inadvisable, illegal, or impossible to provide the facilities or to hold the meeting. This contract may be terminated without liability for any of the preceding reasons by written notice from one party to the other.

b. In the event that either party shall make a voluntary or involuntary assignment for the benefit of creditors or enter into bankruptcy proceedings prior to the date of the Group's meeting, the other party shall have the right to terminate this contract without liability upon written notice to the other.

c. The Hotel shall promptly notify the Group if there is a change in the management company which operates the Hotel prior to the meeting, and Group shall have the right to terminate this Contract without liability upon written notice to the Hotel.

d. The phrase "without liability" wherever used in this Contract shall be deemed to include a refund by the Hotel of all deposits and prepayments. Such refund shall be made within ten (10) days of the notice of termination.

INDEMNIFICATION AND HOLD HARMLESS

Hotel and Group each agree to defend, indemnify and hold harmless the other party from and against all claims, actions or causes of action, liabilities, including reasonable attorneys' fees, and costs arising from any claim, action, cause of action or liabilities arising out of or resulting from the negligence or misconduct of the indemnifying party pursuant to the performance of the indemnifying party's obligation hereunder.

AMERICANS WITH DISABILITIES ACT

Hotel warrants that it is in compliance with the Americans with Disabilities Act (ADA) and all regulations thereunder to the extent required. Upon request, Hotel will identify to Group, prior to acceptance of this contract, any potential ADA deficiencies that are "grandfathered" and that the Hotel is not required to correct. Hotel and Group will each indemnify and hold harmless the other from any liability arising from ADA violations by the indemnifying party. Group agrees to advise the Hotel of any special accommodations required for any of its attendees.

INSURANCE

The Hotel and the Group shall obtain and maintain and provide evidence of insurance upon request in amounts sufficient to provide coverage for any liabilities arising out of or resulting from their respective obligations pursuant to this Contract.

BINDING AGREEMENT

The Group Sales Contract, along with the attachments, if any, called "Schedule of Events," "Hotel Policies and Procedures," and "Additional Conditions" are all of the terms agreed to by the parties. Any changes to these terms must be made in writing and signed by both parties to be effective. All prior agreements, verbal or written, are no longer effective once this Contract is signed by the parties.

NOTICE

Any notice required or permitted by the terms of this Contract should be made in writing. Notice must be delivered through one of the following methods in order to be deemed given:

1) Certified Mail, return receipt requested.
2) Registered Mail, return receipt requested.
3) Overnight Delivery, with a signature signifying receipt.

All notices must be addressed to the person named on the first page of this Contract as that party's contact/representative. The notice shall be deemed effective as of the date shown on the receipt signifying delivery of such notice to the party to whom it is addressed.

ATTORNEYS FEES

In the event any legal action is taken by either party against the other party to enforce any of the terms and conditions of this Contract, it is agreed that the unsuccessful party to such action shall pay to the prevailing party therein all court costs, reasonable attorneys' fees and expenses incurred by the prevailing party.

HEADINGS

The headings and numbers appearing in this Contract have been inserted as a matter of convenience. If there is any conflict between the headings and numbers and the text of this Contract, the text will control.

WAIVER

If one party agrees to waive its right to enforce any term of this Contract, it does not waive its right to enforce such term or any or all other terms of this Contract at any other time.

GOVERNING LAW

This Contract shall be governed by and construed under the laws of the State of Louisianna. If any provision of the Contract is unenforceable under applicable law, the remaining provisions shall continue in full force and effect.

This contract may be signed by the parties and sent by electronic transmission (facsimile) and shall be acceptable to the Hotel to hold the space for seventy-two (72) hours provided that the Hotel receives the signed agreement with the original signature by mail without any further changes postmarked within seventy-two (72) hours of the date shown on the facsimile signature page.

By the Group's Authorized Representative	**By the Hotel's Authorized Representative**
By: NARST	By: Hyatt Regency New Orleans
Name: Dr. David Haury	Name: Tricia Dillard
Title: Executive Secretary	Title: Sales Manager
Signature: _____	Signature: _____
Date: _____	Date: _____

--------- AGENDA ----------

DAY	DATE	START-STOP	FUNCTION	# PPL	SETUP	CEIL	SQ-FT
Sat	4/6	8a-6p	Board meeting & lunch	20	conf	10'	725
Sun	4/7	8:30a-12p	3 workshops	40 ea	c/r	10'	1000 ea
		12:30p-2p	(16) Concurrent b/o sessions (can use 3 workshop rooms)	50ea	t/s	10'	600ea
		11:30a-12:30p	lunch	on own in hotel			
		12:30p-4p	Concurrent sessions	same as above			
		2p-2:30p	Break	900 flow			
		4-6 pm	General Session	500	t/s		
		6p-7p	Mentor Orientation	100	t/s	10'	1200
		7:30p-8:30p	New Resaarchers Reception	100	t/s	10'	1200
		7:30p-8:30p	Teachers as Researchers Reception	100	rds	10'	1350
		8:30-10:30	Welcome reception for all				
		8:30-10pm	(20-30) Table Top exhibits to line room	900	rds	10'	14,000
Mon	4/8	6:45am-7:30a	Cont brkfst	100	rds	10'	1350
		7a-8:30a	12 Committee meetings	50 ea	t/s	10'	600 ea
		8:30a-10a	(16) concurrent b/o sessions	50ea	t/s	10'	600ea
		10a-10:30a	Break	900 flow			
		10:30a-12p	General Session	500	t/s	10'	6000
		12p-1p	Lunch on own in hotel	50	rds	10'	675
		1:00p-6p	(16) concurrent b/o sessions	50ea	t/s	10'	600ea
		2:30p & 4:15p	Breaks	900 flow			
		6p-7p	Business meeting	100	t/s	10'	1200
		7p-8:30p	reception	50	rds	10'	700
		10p-12a	Social	500	rds	10'	6800
Tues		6:45a-7:30a	Cont brkfst	100	rds	10'	1350
		7a-8:30a	12 Committee meetings	50 ea	t/s	10'	600 ea
		8:30a-10 pm	(16) concurrent b/o sessions	50ea	t/s	10'	600ea
		10a-10:30a	Break	900 flow			
		12p-2p	Awards Luncheon	750	rds	10'	10,000
		4p-4:305p	Break	900			
		6p-9p	Board meeting & dinner	50	h/s	10'	1800
Wed	4/9	6:45a-7:30a	Cont brkfst	100	rds	10'	1350
		7a-8:30a	12 Committee meetings	50 ea	t/s	10'	600 ea
		8:30a-noon	(16) concurrent b/o sessions	50ea	t/s	10'	600ea
		9:30a-10a	Break	900			
		11a-12:30p	General Session	500	t/s	10'	6000
		12:30p-4:30p	Board meeting	20	rds	10'	300

Past President's Report

NARST Board of Directors Meeting
Fall, 2000

1. Election Committee
Members: John Penick, Zoubeida Dagher, Jim Minstrell, and Jeff Weld

The Election Committee recommends that the following individuals be placed on the NARST ballot for President-elect.

Cheryl Mason
Peter Hewson

The Election Committee recommends that the following individuals be placed on the NARST ballot for Board members at large

Jonathan Osborne
Bill Cobern
Pamela Fraser-Abder
Ann Cavallo
Randy McGinnis
????? (awaiting response)

2. NARST Procedures Manual
This manual is in need of updating so that it is consistent with the new Bylaws and so that documented procedures are current.

Colleagues who have responsibility for particular portfolios have updated or are updating different parts of this manual. At this point in time, not all procedures have been updated. I am endeavouring to have this as complete as possible by the meeting. From my perspective, there is no need for each Board member to read all procedures. I am anticipating that the president, president-elect and past president can read these and confer with Board colleagues where clarity is needed. However, they are presented as an appendix here for discussion.

3. Policy
With regards to this item I have been working on the procedures and the policy issue has received little attention. The tasks and procedures for action of the Committee need to be carefully considered because they are unclear.

4. NARST Membership offer of International Journal of Science Education
At the New Orleans meeting, Taylor and Francis announced that they would offer all NARST Members subscription to the *International Journal of Science Education* for US$80.- (Regular subscription is US$278.) A similar offer already exists for members of the Association for Science Education Research in Europe (ASERA).

This was announced at the Taylor and Francis function and agreed to by the Board at the send Spring meeting when we suggested that NARST may collect the fees and change a few dollars to cover costs of processing the orders.

Since then I have been in contact with Graham Hobbs and he has suggested that it would be best for Taylor and Francis to contact with NARST members directly. This does reduce the work for the NARST Executive Secretary. In discussion with David Haury (Executive Secretary) we have agreed to that and members will be given this option in the mail. I will write a short note about this in the next NARSTNews.

5. Letter to Thomas F Richardson
I have only recently responded to this generous offer. A copy of my letter is appended.

David F Treagust
8 October 2000

NARST National Association for Research in Science Teaching

6 October, 2000

Thomas F Richardson
4 Westbrook Drive
Nashua
New Hampshire 03060
USA

Dear Mr Richardson,

This is a long overdue response to your letter to Dr White dated 23 April, 2000, regarding your call for papers to examine the nature of scientific literacy, especially in regards to elementary science education, and also to carry out longitudinal studies to validate the worth of science education. Your offer of providing funds to selected proposals is indeed very generous and was accepted and is much appreciated by the NARST Board.

At the NARST Board meeting in late April 2000, we discussed this matter and it was agreed that I would respond to you and to inform you that the Board held similar concerns.

There is now a lot of literature about scientific literacy and also major disagreements about what this might entail. In regards to elementary science, the idea to investigate longitudinal studies is an excellent one that has received little attention in the literature.

At the Board meeting in October, we will discuss your offer further and we will promote your request for proposals through the Research Coordinator and the NARST newsletter. After the meeting, I will inform you of our plan and request your participation.

I would like to thank you once again for stimulating research in these two areas and of your generous offer to provide financial support to successful proposals.

Yours sincerely

David F Treagust
Immediate Past President

President-Elect's Report
October, 2000

Norman G. Lederman

NARST Connections with Other Organizations

1. **Council for Scientific Society Presidents (CSSP).** I will be representing NARST at the CSSP meeting in December, 2000 and will do so again at the May, 2001 meeting. I have been placed on the CSSP listserv and will forward their policy messages to the NARST listserv after Sandi discontinues this practice. Although the posting of this information has been criticized by some members in the past, I believe such postings are beneficial to most members.

2. **National Science Teachers Association (NSTA).** Sandi Abell will be representing NARST at the affiliate meeting (NSTA Council) during Summer, 2001.

Issues

1. **Equity.** There has been extensive discussion about the visibility of criteria used for the nomination and selection of awardees for NARST's various awards. There is a clear disagreement about how proactive the organization should be in "advertising" nomination and selection criteria. Resolution must be reached as soon as possible by the Board.

2. **Hotel Contracts.** There was some confusion concerning the actual dates of the St. Louis conference. It was difficult to resolve the issue because there was no copy of the hotel contract distributed to the Board or any of the Presidents. It seems that in the future the Executive Secretary should be required to include copies of any hotel contracts or agreements in his/her Board report.

Program Committee

The Program Committee report appears under a separate heading in the Board book.

Program Committee Report
October, 2000

Committee:

Norm Lederman, President-Elect, Chair
Kim Nichols, Annual Meeting Coordinator
Charlene Czerniak
Patricia Simmons
Susan Westbrook

Preparations for the 2001 Annual Meeting are proceeding on schedule. This report documents our progress to date.

Logistics

The 2001 annual meeting will be at the **Hyatt Regency Hotel** in **St. Louis**, March 26-29, 2001. The meeting will begin 8:00 AM on March 26, with pre-conference workshop sessions. Concurrent sessions will begin at 12:30 on the 27th. The meeting will end on March 29 at 12:00 noon following the last set of concurrent sessions. The Board meetings will take place during the following times:

March 25, 6:00-10:00 PM
March 26, 8:00-12:00 Noon (as needed)
March 29, 1:00-5:00 PM

Theme

The theme for the 2001 meeting is **Liberating Minds Through Disciplined Inquiry; Liberating Inquiry Through Disciplined Minds.** The theme is designed to focus presenters and plenary speakers on the quality and varieties of inquiry. Contributors have been encouraged, through the call for proposals, to think about ways to address the theme and provide greater opportunities for interaction between presenters and audience members.

Table 1 lists the conference themes for the most recent 7 conferences.

Table 1: NARST Annual Meeting Themes, 1995-2001

Year	Theme
2001	Liberating Minds Through Disciplined Inquiry; Liberating Inquiry Through Disciplined Minds
2000	Connecting Communities of Practice Through Science Education Research
1999	Looking Forward, Looking Backward: Reflections on the Future and Past of Science Education
1998	Networking: Developing and Renewing Resources and Strategies for Excellence in Science Teaching and Learning
1997	Making a Difference: Building a Coherent Theory of Learning
1996	Science Education for the 21st Century: Creating a Culture for Collaboration
1995	Informal Learning in Science

Program

The tentative meeting schedule includes three (3) keynote speakers, approximately 10 concurrent session slots, an awards luncheon, pre-conference workshops, various receptions, and SIG meetings. Exact numbers of concurrent sessions will depend on number of proposals accepted. The tentative meeting schedule appears below.

Tentative Schedule

Not determined at this time, will be provided at Board Meeting

General Sessions

Three (3) keynote sessions will address the conference theme from the perspectives of scientist and historian, sociologist and qualitative researcher, and educational researcher and science educator. The keynote speakers in order of presentation schedule are:

Paul Farber
Biologist and Historian
Oregon State University

Robert Bogdan
Sociologist and Special Educator
Syracuse University

Hugh Munby
Educational Researcher and Philosopher
Queens College

Special Sessions

The 2001 NARST program includes some sessions that have become standard fare at the Annual Meeting, such as:

Mentor/Mentee Orientation Receptions:

- New Generation of Researchers Reception
- General Reception titled, "General Reception for ALL NARST members and a Welcome to New and International Members"
- Past Presidents' Reception (hosted by Kluwer in past years)
- JRST Editorial Board dinner (hosted by Wiley in past years)

SIG Meeting Times

In addition, we are planning to allot time for the following program highlights:

- Peter Okebukola is coordinating a NARST International Committee and ICASE Symposium.

- In order to reach out to teacher/researchers who attend NARST, we have a special event planned. Sandra Abell and Emily van Zee will host a Teacher Researcher Reception the first night of the meeting. This will provide a chance for teacher researchers to meet each other and plan other gatherings together. This reception was held last year and was well received.

- The Program Committee will have a round table session for 2000 NARST award recipients to discuss their work in a more informal and personal setting.

- Charlene Czerniak and the Publications Advisory Committee will host a session discussing publishing in JRST and other NARST publication venues.

- The International Committee will host two sessions: Rodger Bybee will focus on Inquiry and Senta Raizen will address the International Study of Science Teacher Induction.

- Strand 9 will host an invited panel that will speak about Teacher Education and Informal Learning.

- Strand 5 will sponsor an invited session pertaining to the Evaluation of the NSF Fellows Program.

Strands

The strand coordinators for the 10 conference strands have been busy reviewing proposals and putting together concurrent sessions. Table 2 indicates the strand coordinators who have served, or agreed to serve, for meetings from 1998-2002. This information should become part of the program procedures notebook. Note that we are trying to rotate the strand coordinatorship so that for each conference we have one veteran and one new coordinator.

Table 2: Strands and Strand Coordinators 1998-2001

Strand #	Strand Title	Meeting Year	Name
1	Learning: Students' Conceptions	1998	Marcia Fetters, Paul Vellom
		1999	Michael Beeth, Sherry Nichols
		2000	Sherry Nichols, Katherine Wieseman
		2001	Katherine C. Wieseman, Hedy Moscovici
		2002	Hedy Moscovici
2	Learning: Classroom Contexts	1998	Barbara Crawford, Randy Yerrick
		1999	Barbara Crawford, Manuela Welzel
		2000	Manuela Welzel, Carolyn Keys
		2001	Carolyn Keys, Lynn Bryan
		2002	Lynn Bryan
3	Teaching	1998	Gail Jones, Glenda Carter
		1999	Glenda Carter, Eileen Parsons
		2000	Eileen Parsons, Laura Rogers
		2001	Laura Rogers, Thomas Andre
		2002	Thomas Andre
4	Teacher Education	1998	Andrew Lumpe, Carla Zembal-Saul
		1999	Carla Zembal-Saul, Michael Kamen
		2000	Michael Kamen, Deborah Smith
		2001	Deborah Smith, Emily Van Zee
		2002	Emily Van Zee
5	Curriculum, Evaluation, Assessment	1998	Pamela Fraser-Abder
		1999	Pamela Fraser-Abder, Alejandro Gallard
		2000	Alejandro Gallard, Michael Hayes
		2001	John W. Tillotson, Julie Luft
		2002	John W. Tillotson, Julie Luft
6	Cultural, Social, Gender Issues	1998	Claudia Melear, Leonie Rennie
		1999	Sharon Lynch, Randy McGinnis
		2000	Randy McGinnis, Molly Weinburgh
		2001	Molly Weinburgh, Mark Volkmann
		2002	Mark Volkmann
7	Educational Technology	1998	Nancy Songer, William Veal
		1999	William Veal, Tom Keating
		2000	Tom Keating, Pat Freitag
		2001	Pat Freitag, Mark Windschitl
		2002	Mark Windschitl

8	History, Philosophy	1998	Bill Cobern, Michael Clough
		1999	Bill Cobern, Jonathan Osborne
		2000	Jonathan Osborne, Randy Bell
		2001	Randy Bell, Fouad Abd-El-Khalick
		2002	Fouad Abd-El-Khalick
9	Informal Learning	1998	Bernadette Peiffer, Eric Pyle
		1999	Eric Pyle, David Anderson
		2000	David Anderson, Kirsten Ellenbogen
		2001	Kirsten Ellenbogen, Amy Cox-Petersen
		2002	Amy Cox-Petersen
10	College Science Teaching	1998	Brian Coppola, Diane Ebert-May
		1999	Brian Coppola, Diane Ebert-May
		2000	Brian Coppola, Penny Gilmer
		2001	Penny Gilmer, Mary Nakhleh
		2002	Mary Nakhleh

A total of 543 proposals were submitted for the 2001 Annual Meeting. Of these, approximately 380 (i.e., 70%) were submitted in electronic form. The number of electronic submissions increased significantly when compared to last year's 56.5% submission rate. Table 3 shows the number of proposals submitted by strand from 1997-2001.

Table 3: Proposals Submitted for the 1997-2001 Annual Meetings

Strand	1997	1998	1999	2000	2001
1	80	66	75	84	72
2	58	65	52	58	42
3	35	48	40	39	27
4	85	107	96	106	122
5	70	52	53	41	65
6	40	38	32	43	43
7	25	45	49	38	51
8	30	29	34	43	29
9	35	22	16	24	37
10		41	39	50	55
TOTAL	**458**	**513**	**486**	**526**	**543**

Scheduling Deadlines

Date	Task
Tues., August 15	◦ Proposals due to Strand Coordinators
Mid August to early September	◦ Strand Coordinators send proposals to Assessors ◦ Strand Coordinators send acknowledgment letters
Fri., September 1	◦ Strand Coordinators have coversheet information entered into the on-line database ◦ Strand coordinators send a paper **copy** of cover sheets and session selection forms along with the abstracts on computer disks to Kim ◦ Send a list of proposals and their designated proposal numbers to Kim
Mon., September 18	◦ Assessors send completed rating sheets to Strand Coordinators
Mon., October 2	◦ Strand Coordinators send information about accepted/rejected proposals to Kim
Wed., October 11	◦ Strand Coordinators send a **copy** of rejected, conflict of interest, and borderline proposals to Kim ◦ Strand Coordinators send Suggested Grouping forms to Kim with Session Titles assigned

The scheduling for the preliminary program will be completed by December and will appear in the NARST News.

Pre-Conference Workshops

The pre-conference workshops are the responsibilities of the Research Coordinator. At this point, the Program Committee has not received any notification concerning selections for these workshops.

Committee Meetings

Committees will be scheduled during the early morning hours. The procedure to be followed is: ***At this board meeting we should discuss which committees would like to schedule 2 meetings during the conference. I will put together a slate of committee member nominees and ask for an e-mail ratification of the slate in February or early March. New committee members will then be notified of their appointment by regular mail and asked to attend the committee meeting, even though their tenure on the committee will officially begin at the end of the Annual Meeting. The program will state that committee meetings are open to the membership and interested individuals are welcome to attend. .***

Exhibitors

We plan to have exhibitors at the 2001 meeting as per past practice. I will work with David Haury, as necessary, for the accommodation of exhibitors at the meeting.

Issues

1. Will there be any local arrangements? Tours?

2. Equity strand and the availability of computers and projection devices for this strand?

3. Do we need to reexamine the strands to see if they meet our needs? Is it equitable for some strands to have a much higher submission rate than others (see strand 4—this is a huge task for the strand 4 coordinators)? Do the strands capture the breadth of our research interests? (Would this be a task for the Research Committee or the Program Committee)?

4. Do we want to encourage a move toward a paperless submission process? Electronic submission relieves a huge task from the strand coordinators (entering coversheets into the database) and allows for much greater participation by international members in the review process. It also makes it far easier for international members to serve as strand coordinators.

JRST Editorial Staff

Report to the NARST Board of Directors

October, 2000

Our manuscript flow seems to have peaked during the six months between October, 1999, and March, 2000. During the six months since our last report, the numbers have decreased to levels more typical of the long-term trends. This is partly due to the initiatives that we have taken during the two years of our editorship. The article clusters, special issues and the call for papers on the reform and on design issues, have added considerably to manuscript submission. The numbers of those "special" articles are now declining.

The following table provides detail about the receipt and disposition of articles:

Status of Manuscripts Received

Status	***Received Prior to 10/01/98***	***Received 10/01/98-3/31/99***	***Received 4/01/99-9/30/99***	***Received 10/01/00-3/31/00***	***Received 4/1/00 - 9/15/00***
Awaiting designation of reviewers	0	0	0	0	27
Returned without outside review	8	6	9	15	7
Awaiting return of reviews	0	0	0	10	30
Reviews returned, awaiting decision letter	0	0	1	28	23
Rejected	35	25	29	33	2
Rejected in current form with invitation to resubmit	21	19	26	27	0
Accepted and under revision	7	7	17	20	2
Final manuscript Accepted	19	15	21	9	0
Total	***90***	**74**	**103**	**142**	**91**

Revised 9/15/2000

We are managing to maintain a good response time on most manuscripts, though our response time has slipped a little with the large influx of articles. We also believe that we are writing high quality decision letters that give authors useful advice and guidance about their manuscripts.

We have some concerns that one consequence of the influx of new articles is a decline in the quality of reviews. The reviewers we have worked with most extensively are declining more articles, so we are depending more on reviews from less experienced reviewers. The quality of these reviews is highly variable, as are the recommendations about publication. We have found ourselves at least once in the problematic situation of deciding to reject articles that the reviewers had recommended we accept.

Reports on Initiatives

We have a number of article series, article clusters, and special issues still in progress. The current status of these initiatives is as follows:

Initiative	**MS Submitted**	**Status**
Feature articles on Reform	8	One Accept with Revisions (was withdrawn); *Two* reject, *Two* under review, *Three* waiting for decision letters.
Design articles	--	We continue to publish design-oriented articles. We are also publishing an editorial encouraging the submission of design-oriented articles with a technology focus.
Special Issue on Language Culture in Science Education (Okhee Lee and Sharon Lynch, Editors)	22	All decision letters are completed and six articles tentatively selected for inclusion in the special issue (some others may be included in regular issues). If revisions and responses can be completed, we are aiming for May, 2001, publication.
Cluster on Learning in Science Education (David Wong, organizer)	3 invited papers	Final revisions are under way. We are aiming for April, 2001, publication.
Cluster on Technology (Fernando Cajas, organizer)	10	Two accept with minor, Two accept with major, 3 RCF, two waiting for reviews, 1 waiting for decision letters
Cluster on Teachers' Transformations (Roser Pinto, organizer)	6	Three waiting for decision letters., Two waiting for reviews, One returned without review
Special Issue on Urban Science Education (Angie Barton and Ken Tobin, editors)	21	Eleven waiting for reviews, Nine waiting for decision letters., one needs reviewers

Associate Editors

There have been no changes in our associate editors since the last report. Thus our current list of Associate Editors, pending NARST Board approval, includes:

Kathleen Hogan, Gregory Kelly, Joseph Krajcik, Gail Richmond, William Schmidt, Deborah Smith, Edward Smith, Ed van den Berg, and Emily van Zee.

JRST Editorial Board

The following members of the JRST Editorial Board have terms that will end this month:

Bill Boone, Saouma BouJaoude, Wolfgang Graeber, Dorit Maor, Ana Morais, Jonathan Plucker

We propose they be replaced by the following NARST members who have agreed to be appointed, and who have a good record as Senior Reviewers for us:

Tom Andre, Iowa State University
Sasha Barab, Indiana University
Pauline Chinn, University of Hawaii at Manoa
Doris Jorde, Oslo University
John Leach, University of Leeds
Manuela Welzel, Heidelburg University

Vitae for all of these candidates are attached.

Editorial Transition Plans

The timeline for editorial transition is as follows:

- Remainder of calendar year 2000: Jim Gallagher and Andy Anderson will continue as editors of JRST.
- January 1, 2001: Dale Baker and Mike Piburn will begin receiving new manuscripts submitted to JRST.
- Calendar year 2001: Andy Anderson and Jim Gallagher will continue working with manuscripts submitted before January 1, 2001. They will have responsibility for editorial decisions and for preparing these manuscripts for publication.
- For manuscripts submitted after January 1, 2001, Dale Baker and Mike Piburn will have editorial responsibility.

- December 2001: Last issue that will list Jim Gallagher and Andy Anderson as editors. Some articles for which they had editorial responsibility will appear in future issues.

- December 31, 2001: Last date on which revisions of articles accepted by Andy Anderson and Jim Gallagher will be accepted by them. Revised articles returned after that date will be forwarded to Dale Baker and Mike Piburn and will be treated as new manuscripts which will have to go through the review process again.

We are currently working with Dale and Mike as associate editors, so that we can discuss both procedures and standards for handling manuscripts. JRST secretary Jean Beland has also started working with Margaret Carr, who will be her successor, to set up manuscript tracking procedures.

One policy-related note about finances. As you can see from the timeline above, a smooth transition requires close to a full year in which two editorial teams are operating simultaneously. This is a predictable expense, and one that should be considered in budgeting for editorial transition years.

Editorial on Technology-related Design Articles

Publication of Technology-based Design Articles in the *Journal of Research in Science Teaching*

by Charles W. Anderson (Editor) and Joseph S. Krajcik (Associate Editor)

Recent advances in technology development and in the science of learning have brought new opportunities for technology based tools to promote the teaching and learning of science. The *Journal of Research in Science Teaching* wishes to recognize these developments and to publish articles that enhance their positive impact. We therefore encourage the submission of reports on research-based design work that include links to relevant empirical literature and contributions to science education theory and practice. We wish, of course, to publish articles that will have the greatest educational value for our readers and significance for the field of science education. We therefore will base our publication decisions in part on the guidelines discussed below.

Introduction and literature review. It is important to help readers understand how the work being reported is situated with respect to ongoing dialogues in science education. The first concerns the goals and purposes of science education. What important science education goals or purposes are the tools or environments designed to serve? How do the tools or environments help solve pressing problems in the teaching and learning science? The second dialogue concerns design and development work in technology. What other tools or environments exist that are designed to serve related purposes? How is the work reported in this article similar to or different from those projects? A third dialogue concerns how the tools/environments relate to current theoretical ideas about the teaching and learning of science. As science educators, the readers of *JRST* are generally familiar with the dialogue about science education goals and purposes, but not all readers will be as familiar with recent developments in technology-based environments and related learning theories. The introduction and literature review should be written with these readers in mind.

Description of tools or environments. Many tools and environments are complex and multi-faceted—too complex to be described completely within the page limits of a journal article. Yet, the article must give a clear and concise description of the tool that allows readers to understand what the tool is and how it is used. We suggest two strategies that will provide readers with essential information in a relatively compact form. First, the description should emphasize those properties that make this particular tool or environment unique, and/or the properties that are most responsible for important learning. What features does the tool or environment have that promote learning? What features does the tool provide that enables students to accomplish tasks

that normally could not be accomplished? Particular care should be taken in describing aspects of the tool or environment most salient in the research reported in the article. If the tool/environment was used in a laboratory setting, what issues exist in using the tool/environment in classrooms? Second, the article should include a reference to a web site or other sources of information that will allow readers to learn more about the tool or environment if they are interested.

Study design and data analysis. It is critically important for readers to understand how and why the tool or environment supports the teaching and learning of science content or scientific inquiry. Although we recognize the developmental nature of such work, data need to be presented that illustrate or explain how learning occurs. Analyses of students' or teachers' work, student and teacher dialogue, and/or student or teacher products should be used as evidence. In the selection of subjects representativeness is valued over idiosyncratic groupings. And, it is critically important to provide a theoretical rationale for the mechanisms at work in learning. References to the literature are an integral part of such an analysis. Outcome measures demonstrating positive impacts on students' or teachers' knowledge or beliefs are useful, but they should be tied to analyses showing how the outcomes can be attributed to the use of the tools. Provided a sound rationale is presented, JRST will accept a range of studies from experimental designs to teaching experiments to more ethnographic studies.

Conclusion. The conclusion needs to discuss how the work deepens our understanding of the teaching and learning of science. Our primary concern centers on how the work expands what is already known or improves our understanding of the teaching and learning of science and the present "state of the art" in the design of tools and environments for science teaching and learning. For many tools issues of scaling up or practical classroom use are also important. How this approach is better than other non technology-based approaches? What issues of cost effectiveness, resources, efficiency, and classroom management remain to be addressed?

We encourage the submission of teaching tools or learning environment research reports to *JRST,* and we hope that these guidelines will help authors to make those reports useful and informative for our readers.

Resumes of Editorial Board Candidates

THOMAS ANDRE

Educational Background
BS, University of Massachusetts, 1967; MA, PhD, University of Illinois, 1970, 1971

Academic Background

1971-1974:	Assistant Professor, College of Arts and Sciences at Cortland, State University of New York,
1974-1977:	Assistant Professor, Psychology and Secondary Education, Iowa State University
1977-1989:	Associate Professor, Psychology and Secondary Education, Iowa State University
1989- :	Professor, Curriculum & Instruction & Psychology, Iowa State University

PUBLICATIONS (REFEREED) (science education and technology related only)

1) Wang, T., & Andre, T. (1991). Conceptual change text versus traditional text and application questions versus no questions in learning about electricity. *Contemporary Educational Psychology, 16*, 103-116.
2) Andre, T., Dietsch, C., & Cheng, Y. (1991). Sources of sex education as a function of sex, coital activity, and type of information. *Contemporary Educational Psychology, 16*, 215-240.
3) Andre, T., & Veldhuis, G. H. (1991). Use of computers by physics and physical science teachers. *The Journal of Computer-Based Instruction, 18*(4), 113-117.
4) Andre, T., & Ding, P. (1991). Student misconceptions, declarative knowledge, stimulus conditions and problem solving in basic electricity. *Contemporary Educational Psychology, 16*(4), 303-313.
5) Carlsen, D., & Andre, T. (1992). Use of a micro-computer simulation and conceptual change text to overcome student preconceptions about electric circuits. *The Journal of Computer-Based Instruction, 19*, 105-109.
6) Hegland, S., & Andre, T. (1992). Helping learners construct knowledge. *Educational Psychology Review, 4*, 223-240.
7) Chambers, S. K., & Andre, T. (1995). Are conceptual change approaches to learning science effective for everyone: Gender, prior subject matter interest, and learning about electricity. *Contemporary Educational Psychology, 20*, 377-391.
8) Chambers, S. K., & Andre, T. (1997). Gender, prior knowledge, interest, and experience in electricity and conceptual change text manipulations in learning about direct current. *Journal of Research in Science Teaching, 34*(2), 107-123.
9) Andre, T. (1997). Minds-on and hands-on activity: Improving instruction in science for all students. *Mid-Western Educational Researcher, 10,* 28-33.
10) Windschitl, M., & Andre, T. (1998). Using computer simulation to enhance conceptual change: The roles of constructivist instruction and student epistemological beliefs. *Journal of Research in Science Teaching.*
11) Andre, T. (1998) The impact of digital and electronic technology in education: A multiply-caused glacier?, *Journal of Computers in Teacher Education. 14*, 17-20
12) Andre, T., Whigham, M., Hendrikson, A., & Chambers, S., (1999, in press). Competencies Beliefs, Positive Affect, and Gender Stereotypes of Elementary Students and Their Parents about Science Versus Other School Subjects, *Journal of Research in Science Teaching*
13) Akpan, J. P., & Andre, T. (1999) The effect of a prior dissection simulation on middle school students' dissection performance and understanding of the anatomy and morphology of the frog, *Journal of Science Education and Technology*, 8, 107-121
14) Andre, T. et al. (2000) Mission Newton! and Thinker Tools: Using Prior Simulations to Promote Learning about Motion, *Mathematics / Science Educational Technology Annual.*
15) Koeppen, K.E. & Andre, T. (2000). Connecting Cultures via the Internet: The United States and Russia. *Staff and Educational Development International. 4, (1),* 9-17.

16) Akpan, J. P. & Andre, T. (2000, in press). Using a Computer Simulation Before Dissection to Help Students Learn Anatomy, *Journal of Computers in Mathematics and Science Education.*
17) Whigham, M., Andre, T., Yang, E. (accepted) Teacher's Beliefs about the National Math and Science Standards and the Emphasis Placed on the Standards in the Classroom. *Journal of Science Teacher Education.*

BOOKS/CHAPTERS

1. Anderson, R. C., Faust, G., Roderick, M., Cunningham, D. J., & Andre, T. (Eds.). (1969). *Current Research on Instruction.* New York: Prentice- Hall, Inc.
2. Andre, T. (1986). Problem-solving and education. In G. Phye & T. Andre (Eds.), *Cognitive classroom learning, understanding, thinking, problem-solving* (pp. 169-204). New York: Academic Press. Also reprinted in Moon, B., & Murphy, P. (1989). *Curriculum, learning, and assessment* (Vol. 2). Orlando, FL: Academic Press, Inc.
3. Andre, T., & Phye, G. (1986). Cognition, learning, and education. In G. Phye & T. Andre (Eds.), *Cognitive classroom learning, understanding, thinking, problem-solving* (pp. 1-20). New York: Academic Press.
4. Phye, G. D., & Andre, T. (Eds.). (1986). *Cognitive classroom learning, understanding, thinking, problem-solving.* New York: Academic Press.
5. Andre, T. (1987). Processes in reading comprehension and the teaching of comprehension. In J. A. Glover & R. R. Ronning (Eds.), *Historical foundations of educational psychology* (pp. 259-296). New York: Plenum.
6. Andre, T. (1997). Selected microinstructional methods to facilitate knowledge construction: Implications for instructional design. In R. D. Tennyson, F. Schott, N. Seel, & S. Dijkstra, (Eds). *Instructional design: International perspectives. Vol I. Theory, research, and models.* (pp 243-268) Hillsdale, NJ: Lawrence Erlbaum Associates.

GRANTS RECEIVED (LAST 5 YEARS)

O'Boyle, M. W., & Andre, T. (1990-1996). RICOH Corporation, "Man/Machine Interface,~ $100,000.
Andre, T. (1997). ISU College of Education Small Grants Competition, $6,276.
Andre, T. & Whigham, M. College of Education Grant (1997/1998), $4275; (1998/1999), $4275
Andre, T. and Schmidt, D., (1998) Miller Fellowship Grant from ISU. $25,000
Whigham, M. & Andre, T. (1998/1999). Inservice to improve teachers' understanding and use of the National Math and Science Standards, Eisenhower Grant, $171,912 (Project Co-Director/coPI)
Myrna A. Whigham, Project Director and Thomas Andre (Co-PI) and Brian Hand (Co-PI), (1999/2000) Modeling Science and Mathematics Reform Through Implementation of the National Standards Other Project $100,000 by the Eisenhower Grant Program through the State Board of Regents.
Constant, K. P. Andre, T., Chumbley, L. S., Hand, B. Hargrave, C. P., & Thompson, A. (1999-2000) Incorporating Inquiry-based science modules involving an environmental scanning electron microscope into preservice teacher education classes, NSF, ($74,877) will be awarded for June 1999-August, 2000.(coPI)
Andre, T., (PI/Project Director), Whigham, M. (Co-PI) & Hand, B (Co-PI), Modeling Science and Mathematics Reform Through Implementation of the National Standards Project (2000/2001). $85,000 fr m the Eisenhower Grant Program, State Board of Regents.

Professional Offices: Midwestern Educational Research Association (Membership Committee, 1978-79; Association Council, 1979-82; President-Elect, 1994; President, 1995; Chair, Association Council and Board of Directors, 1995)
Iowa Educational Research and Evaluation Association (President, 1979-80; Ch, Executive Committee of Organizing Committee & Ch, Organizing Committee, 1978-79; Past President, 1980-8l)

Editorial Boards (Past & Current): Contemporary Educational Psychology, MidWestern Educational Researcher, Journal of Educational Psychology, Educational Psychologist, Journal of School Psychology, Journal of Experimental Education, Educational Psychology Review. Journal of Youth and Adolescence, Computers in Human Behavior

SASHA A BARAB

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Bloomington, IN 47408

Employer: School of Education
Indiana University
Rm 2232, 201 N. Rose St.
Bloomington, IN 47405
(812) 856-8462

Date of Birth: August 11, 1967

Internet: sbarab@indiana.edu

Home Page: http://inkido.indiana.edu/barab/

EDUCATION

B.S., Psychology, American University, Washington, D. C., 1989.

Certification: Special Education Teacher (K-12). State of Connecticut, May 1994.

M.A., Education, University of Connecticut, Storrs, CT, 1994.

Ph.D., Cognition and Instruction, University of Connecticut, Storrs, CT, June 1997.

PROFESSIONAL EXPERIENCE

ASSISTANT PROFESSOR, August 1997 - present, Indiana University, Bloomington, IN. Tenure track position in the Department of Instructional Systems Technology located in the School of Education. Responsibilities include research, teaching, and service. Research interests are on small group learning in technology-based, student-directed, learning environments using a situated cognitivist lens. Typical courses taught include computers and education for undergraduate students, and cognition and instruction courses for graduate students. Also appointed as a core member of the Cognitive Science Program Faculty.

ASSOCIATE DIRECTOR, August 1999 - present, Center for Research on Learning and Technology, Indiana University, Bloomington, IN. The CRLT has as its mission to promote and support a community of scholars dedicated to research and professional development on the design, use, and implementation of technology to improve learning. Specific duties include overseeing the Center's research projects, managing CRLT grants, and coordinating collaborative efforts among faculty and students.

SENIOR SCIENTIST OF EDUCATIONAL RESEARCH, February 2000-present, ActiveInk Network, Austin, TX. The ActiveInk Network is an interactive learning environment for teachers, students, and parents. ActiveInk's rich, interactive learning resources are available via the World Wide Web for school and home users.. Responsibilities include developing a set of educational commitments that are grounded in research on good teaching and learning, co-designing a technology infrastructure that is consistent with these commitments, supporting the development of curricular units that are also consistent with these commitments, and maintaining a research and development framework for maintaining the high quality of ActiveInk curricular units.

RESEARCH EXPERIENCE

PRINCIPAL INVESTIGATOR, September 1999-present, The Internet Learning Forum: Fostering and Sustaining Knowledge Networking to Support a Community of Science and Mathematics Teachers. A three-year NSF-KDI grant to design and evaluate the salient features of an electronic knowledge network, the Internet Learning Forum (ILF), to support a virtual community of pre-service and in-service mathematics and science teachers, allowing them to share and improve pedagogical practices. The research goal of this project is to understand the social and technological factors underlying the effective use of electronic technologies to foster, sustain, and scale a virtual community. Serving as Principal Investigator.

PRINCIPAL INVESTIGATOR, September 99-June 00, Building Connections Through Virtual Worlds. Investigating the use of web-based technologies to develop and make available a set of professional development supports for teachers and curricular supports for students, which will allow middle school students distributed in classrooms across the state to learn astronomy in a project-based, technology-rich learning environment. Serving as Principal Investigator.

PRINCIPAL INVESTIGATOR, July 1997-September 1999, Virtual Solar System Project. The virtual reality solar system project is a curriculum/research project intended to design and evaluate a technology-rich, project-based course for teaching astronomy to undergraduate students. Duties included collaborating on the course conception, design, and evaluation. Also assembled a research team to investigate various issues related to learning. Served as PI or Co-PI on grants in support of this project.

GRANTS WRITTEN AND RECEIVED

The Internet Learning Forum: Fostering and Sustaining Knowledge Networking to Support a Community of Science and Mathematics Teachers. National Science Foundation-Knowledge Distributed Intelligence, September 99-August 02, $1,473,303. (Principal Investigator, with Co-PIs R. Kling, T. Duffy, D. Cunningham, & C. Brown)

Building Connections Through Virtual Worlds. Indiana University-Informational Communications High Performance Network Applications Fund, September 99-June 00, $20,000. (Principal Investigator)

Strengthening An Infrastructure In Support Of Research On The Linkage Of Learning Theory, Pedagogy, And Technology. Indiana University-RUGS Research & Equipment Fund, August 1998-August 1999, $50,000. (Principal Investigator, with CO-PIs T. Duffy, C. Bonk, D. Cunningham, & T. Keating)

Digital Weather Station Project. Center for Innovative Learning Technologies-Seed Grant, June 1998-June 1999, $8,000. (CO-Principal Investigator with K. Hay).

Center for Research on Learning and Technology. Indiana University-School of Education, August 1998-August 2000, $140,000. (CO-Principal Investigator with T. Duffy, D. Cunningham, C. Bonk, T. Keating, & T. Frick)

Virtual Reality Solar System Project. Center for Innovative Learning Technologies-Seed Grant, May 1998-June 1999, $7,500. (CO-Principal Investigator with K. Hay)

Constructing Knowledge and Virtual Worlds,. Indiana University-Proffitt Educational Research Fund, December 1997-December 1998, $11,980. (CO-Principal Investigator with K. Hay)

Learning with Generative Hypertext. Spencer Foundation-Small Grants Program, July 1995-January 1997, $11, 950. (Co-Principal Investigator with M. Young)

JOURNAL PUBLICATIONS

Barab, S. A., & Hay, K. (in press). Doing science at the elbows of scientists: Issues related to the scientist apprentice camp. To appear in the *Journal of Research in Science Teaching.*

Barab, S., A., Barnett, M., Yamagata-Lynch, L., Squire, K., & Keating, T. (in press). Using activity theory to understand the contradictions characterizing a technology-rich introductory astronomy course. To appear in *Mind, Culture, and Activity.*

Barab, S. A., Hay, K. E., Barnett, M. G., & Squire, K. (in press). Constructing Virtual Worlds: Tracing the Historical Development of Learner Practices/Understandings. To appear in *Cognition and Instruction.*

Barab, S. A., Hay, K. E., Barnett, M. G., & Keating, T. (in press). Virtual solar system project: Building understanding through model building. To appear in the *Journal of Research in Science Teaching.*

Barnett, M., Barab, S. A., & Hay, K. E. (in press). The virtual solar system project: Student modeling of the solar system. To appear in *The Journal of College Science Teaching.*

Barab, S. A., & Kirshner, D. (in press). Methodologies for capturing learner practices occurring as part of dynamic learning environments. To appear in *The Journal of The Learning Sciences.*

Barab, S. A., Squire, K., & Dueber, B. (in press). Supporting authenticity through participatory learning. To appear in *Educational Technology Research and Development.*

Barab, S. A., Hay, K. E., Yamagata-Lynch, L. C. (in press). Constructing networks of activity: An in-situ research methodology. To appear in *The Journal of The Learning Sciences.*

Hay, K. E., Johnson, H., Barab, S. A., & Barnett, M. G. (in press). The next best thing: Virtual reality in the astronomy classroom. To appear in *Mercury.*

Barab, S. A., Hay, K. E., Squire, K., Barnett, M., Schmidt, R., Karrigan, K., Yamagata-Lynch, L., & Johnson, C. (2000). Virtual solar system project: Learning through a technology-rich, inquiry-based, participatory learning environment. *Journal of Science Education and Technology, 9*(1), 7-25.

Barab, S. A., Cherkes-Julkowski, M., Swenson, R., Garrett. S., Shaw, R. E., & Young, M. (1999). Principles of self-organization: Ecologizing the learner-facilitator system. *The Journal of The Learning Sciences, 8*(3&4), 349-390.

Barab, S. A. (1999). Ecologizing instruction through integrated Units. *Middle School Journal, 30.* 21-28.

Barab, S. A., Young, M. F., & Wang, J. (1999). The effects of navigational and generative activities in hypertext learning on problem solving and comprehension. *International Journal of Instructional Media, 26*(3), 1-27.

Young, M. F., & Barab, S. (1999). Perception of the raison d'etre in anchored instruction: An ecological psychology perspective. *Journal of Educational Computing Research, 20*(2), 113-135.

D'Avanzo, C., & Barab, S. A. (1999). Depression and anxiety among Cambodian refugee Women in France and the United States. *Issues in Mental Health Nursing, 5,* 1-18..

Barab, S. A., Hay, K., & Duffy, T. (1998). Grounded Constructions and How Technology Can Help. *Technology Trends,43*(2), 15-23.

Barab, S. A., Redman, B. K., & Froman, R. (1998). Measurement Characteristics of the Levels of Institutionalization Scale: Examining its Reliability and Validity. *Journal of Nursing Measurement, 6*(1), 1-15.

Barab, S. A., & Landa, A. (1997). Designing effective interdisciplinary anchors. *Educational Leadership, 54,* 52-55.

Barab, S. A., Bowdish, B. E., & Lawless, K. A. (1997). Hypermedia navigation: Profiles of hypermedia users. *Educational Technology Research and Development, 45(3),* 23-42.

Young, M. F., Kulikowich, J. M., & Barab, S. A. (1997). The unit of analysis for situated[1] assessment. *Instructional Science, 25,* 133-150.

Redman, B. K. & Barab, S. A. (1997). Diabetes education infrastructure and capacity in hospitals and home health agencies in Maryland and Pennsylvania. *The Diabetes Educator, 23* (4):449-455.

Barab, S. A., Bowdish, B. E., Young, M. F., & Owen, S. V. (1996). Understanding kiosk navigation: Using log files to capture hypermedia searches. *Instructional Science 24*(5), 377-395.

Barab, S. A., Fajen, B. R., Kulikowich, J. M., & Young, M. F. (1996). Assessing hypermedia navigation through Pathfinder: Prospects and limitations. *Journal of Educational Computing Research, 15*(3), 185-205.

PAULINE W. U. CHINN

Teacher Education and Curriculum Studies
University of Hawai'i-Manoa
1776 University Ave.
Honolulu, HI 96822

Phone (808) 956-4411
FAX (808) 956-3918
E-mail: chinn@hawaii.edu

PROFESSIONAL INTERESTS

My research interests in science education and teacher preparation focus on indigenous science, culture/gender/language issues, student diversity and pre and in-service professional development through the doctorate. In teacher education, I am especially interested in inquiry, reflective, and collaborative teaching practices leading to more effective, inclusive, community-oriented curriculum and instruction for ethnic, racial, gender and linguistic minority K-12 students. I serve on the Editorial Board of *Multicultural Perspectives*, the journal of the National Association for Multicultural Education (NAME).

EDUCATION

Ed.D.	Doctor of Curriculum and Instruction, Science Education, University of Hawai'i-Manoa
M.B.A.	Master of Business Administration, Resource Economics, University of Hawai'i-Manoa,
M.Ed.	Master of Education, Curriculum and Instruction, Secondary Science, University of Hawai'i-Manoa
B.Ed.	Bachelor of Education, High Honors, Secondary Science, University of Hawai'i-Manoa

PROFESSIONAL EXPERIENCE

University of Hawaii, College of Education, Assistant Professor
Chair Teacher Education Committee for Science (current)
NCATE Science Folio Writer (current)

Program/School Evaluator: Western Association of Schools and Colleges (WASC)
Visiting Committee, Marshall Islands High School, Majuro, Republic of the Marshall Islands (1995).
Visiting Committee, San Mateo High School, San Mateo, CA (1994).
Visiting Committee, Lahainaluna High School, Lahainaluna, Maui (1993).
Roosevelt High School Accreditation Coordinator/Writer, Honolulu, Hawaii (1991).
Visiting Committee, Hawaii Preparatory Academy, Waimea, Hawaii (1990).

Program Director, University of Hawaii-Manoa
1993 Summer Program for Enhancement of Basic Education--Science Teaching

University of Hawaii, Manoa Writing Program, Researcher/Writer
Research on practices in science and applied science writing intensive classes (1991-93)

East-West Center, Resource Systems Institute
Researcher/writer: renewable energy and undersea minerals, 1981-84.

Department of Education, State of Hawaii
Roosevelt High School 1984-96
State Advisory Board: Solar Vehicle Programs, 1988-1994
Science Learning Center Coordinator 1987-91, 1994-96
Science Instructor 1984-96: Biology, Chemistry, AP Chemistry
School Accreditation Coordinator, 1990-91.
Kaiser High School 1973-81
Kawananakoa Middle School 1971-73

PEER REVIEWED AND PROFESSIONAL PUBLICATIONS

1. Refereed Publications

Published

Chinn, P. & Hilgers, T. (2000). From corrector to collaborator: The range of instructor roles in writing-based natural and applied science classes. *Journal of Research in Science Teaching. 37*(1), 3-25.

Chinn, P. (1999). Multiple worlds and mis-matched meanings: Barriers to minority women engineers. *Journal of Research in Science Teaching. 36*(6), 621-636.

Chinn, P. (1999). Isabella Aiona Abbott and the education of minorities and females. *Teaching Education. 10*(2), 155-167.

Chinn, P. (1998). Teacher student action research: Answering Melissa's question. *Teaching and Change. 5*(2) 99-115.

Chinn, P. & Iding, M. K. (1997). High school chemistry students' self-concepts as writers and scientists. *Teaching and Change. 4*(3), 227-244.

Clarke, A., Johnson, C., & Chinn, P. (1984). Economic assessment of marine minerals in Pacific Ocean exclusive economic zones. *Natural Resources Forum*, Spring.

In Review

Chinn, P. (in review). Effective teachers and practices for multicultural, inclusive classrooms. Submitted to *Exceptionality*. Presented at AERA Annual Meeting, April 2000

Chinn, P. & Iding, M. (in review). Linking Preservice an In-Service Teachers' Professional Development in Elementary Science: A Sociocultural Analysis of a School-University Partnership. Submitted to *Journal of Research in Science Teaching.*

Chinn, P. (in review). Asian women scientists and engineers: Gender, culture and the model minority stereotype. Submitted to *Journal of Research in Science Teaching.*

Iding, M. & Chinn, P. (in review). Future scientists: Informal and school factors that influence students' choice of science majors and careers. Submitted to *Science Education.*

Chinn, P. (in review). What preservice teachers bring to the classroom: How sociocultural experiences shape future teachers of diverse learners. Submitted to *Multicultural Perspectives.* Presented at AERA Annual Meeting, April 2000.

In preparation

Chinn, P. A Sociocultural perspective on effective teachers and practices for multicultural, inclusive science classrooms. Accepted for presentation at National Association of Research in Science Teaching Annual Meeting, April 2000.

Chinn, P. & Chock, K. Elementary science teachers' teaching and learning: Restructuring classroom practices through collegial and school-university partnerships. Presented at National Association of Research in Science Teaching Annual Meeting, April 2000

Chinn, P. Black, R, & Artiles, A. An Overview: Issues of overrepresentation of ethnic minority students in special education in Hawaii.

CURRENT GRANTS & FELLOWSHIP

International Joint Research on Culture, Language and Gender Sensitive Science Teacher Education Program (CLAGS-STEP Project). I am one of five international members participating in a collaboration funded by Japan's Ministry of Education to: 1) establish rationales for developing culture and gender sensitive science teacher education programs, 2) propose the framework of such programs, 3) develop models of the the programs, 4) develop models of course syllabi, 5) enable critical discussion of fundamental issues on culture, language, gender related studies in science education. June 2000 to Feb. 2002.

What's Up in the Universe? Formative evaluation and dissemination of *"Mapping the Universe"* a NOVA program funded by the NSF Informal Science Education Program. P.I. Brent Tully, Institute for Astronomy, University of Hawai'i-Manoa. Subcontract, $20,000.

Environmental Biotechnology: A Model Teacher Development Program for Science and Technology Careers. A course TECS 433 Interdisciplinary Science, (Agriculture): Bioremediation & Ag-Biotechnology to carry out Section 2.4 Outreach of the Agriculture Based Bioremediation Program (ABRP) Charles Kinoshita, P.I., Biosystems Engineering. Subcontract, $42,000.

Characteristics of Effective Secondary Teachers in Inclusive, Culturally Diverse Classrooms, Center of Minority Research in Special Education (COMRISE) Postdoctoral Fellowship. Pauline Chinn, Teacher Education & Curriculum Studies, Co-P.I. and Rhonda Black, Special Education, Co-P.I. 1999-2000. $45,000.

SUMMARY OF MAJOR HONORS, AWARDS, GRANTS & SCHOLARSHIPS

On-going	Ministry of Japan, International Joint Research on Culture, Language and Gender Sensitive Science Teacher Education Program
On-going	National Science Foundation: "Mapping the Universe"
1999-00	US Depts. of Army & Agriculture: Ag-Based Bioremediation Program
1999-00	USDOE Center of Minority Research in Special Education Fellowship
1997-98	USDOE Eisenhower Professional Development Program: *A Professional Development Model for Pre and In-Service Elementary Science Teachers.*
1996-97	USDOE Eisenhower Professional Development Program: *A School University Partnership to Support the Professional Development of Elementary Science Teachers*
1993-95	USDOE: ESL Bilingual Fellowship
1993-94	Holmes Scholar Liaison to the Board of the Holmes Group
1991-93	Western Regional Representative, Holmes Scholars Network
1991-92	USDOE McAuliffe Fellowship: Mini-Solar Car: A Math/Science/Technology Integrated Project
1989	Award U.S. Dept. of Energy: Best Energy Education Project Solar Vehicle
1988-90	Energy Division, Hawaii: Solar Vehicle Program.
1988	Award: State of Hawaii House of Representatives, Certificate of Recognition
1988	Award: GTE GIFT Math/Science Integration
1988	Award: NASA Education Workshops for Math and Science Teachers
1988	Award: Honolulu District Teacher of the Year
1987	Award: Presidential Award Winner in Science, Hawaii
1985	Woodrow Wilson/Dreyfus Fellowship, Chemistry
1984	Award: NSTA National Chemistry Teacher Honors Award
1982	Award: ACS Northwest Region Outstanding Chemistry Teacher
1981	Award: ACS Outstanding Chemistry Teacher, Hawaii

Name: **Doris Jorde, Ph.D.**
Tåsen Terrasse 30, 0873 Oslo Norway
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Position: Associate Professor (Førsteamanuensis) in Science Education
Project leader: Web-Based Integrated Science Environment (WISE) in Norway

Institution: Institutt for lærerutdanning og skoleutvikling (ILS)
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Personal: Born 1952, American citizen, married to Alf Sandsør, two children (1985, 1987), residency in Norway since 1984

Education: Doctor of Philosophy, Science Education
University of California, Berkeley, U.S.A. (1984)
Regents Scholarship recipient, 1982-83
Thesis: An Ethnographic Study of an Urban High School: Science in the School Culture

Master of Science, Plant Pathology
University of California, Berkeley, U.S.A. (1980)
Regents Scholarship recipient, 1978-80

Bachelor of Science, Microbiology
California State University, Fresno, U.S.A. (1975)
Graduation with highest honors

Experience:

- Project leader, Web-Based Integrated Science Environment (WISE) in Norway

1998-99 Visiting Professor, Department of Education, University of California, Berkeley, CA

1992- Associate Professor, Science Education, Department of Teacher Education and School Development (ILS), University of Oslo, Norway

1989-92 Research fellowship, Norwegian Council for Science and the Humanities (NAVF)

1984-88 Researcher (Assistant Professor), Center for Science Education, University of Oslo, Norway

1980-84 Research Associate, Department of Plant Pathology, University of California, Berkeley, California, U.S.A.

1975-80 Research Associate, Department of Plant Pathology, University of California, Berkeley, California, U.S.A.

Publications

Jorde, Doris (2000): Knowledge Integration Environment: reactions and comments. Invited commentary

for International Journal of Science Education.

Harbo, Torstein and Doris Jorde (2000): Comparative Education in Current Educational Studies: four Nordic universities in Context. Comparative Education, vol 36 No. 2.

Linn, Marcia and Doris Jorde (1999): Designing the curriculum for student learning: A research agenda. Position paper for the Second International Technology in Education Study (SITES) Stanford, Ca, U.S.A.

Henriksen, Ellen and Doris Jorde (1999): High-school students' understanding of radiation and the environment – can museums play a role? Science Education, accepted.

Schmidt, William, Doris Jorde, et.al. (1996): **Characterizing Pedagogical Flow: An Investigation of Mathematics and Science Teaching in Six Countries.** Kluwer Academic Publishers.

Jorde, Doris (1996): Norwegian case study contributor to the book: **Changing the subject: Innovations in Science, Mathematics and Technology Education**. Edited by Paul Black and J. Myron Atkin.

Jorde, Doris (1996): En god start i naturfagundervisning. Bedre skole (2) 67-75.

Jorde, Doris and Anne Lea (1996): *Sharing Science: Primary Science for Both Teachers and Pupils.* In **Shortening the Shadows.** Lesley Parker and Leonie Rennie, Eds. Kluwer, the Netherlands.

Sjøberg, Svein and Doris Jorde (1995): Educational Reforms in Norway: Improving the Status of School Science? Int. J. Sci, Educ., vol 17, no. 4, 519-529.

Sjøberg, Svein, Doris Jorde, Knut Halforsen og Anne Lea (1995): Naturfagutredningen, rapport 1 og 2, KUF.

Jorde, Doris (1984): An Ethnographic Study of an Urban High School: Science in the School Culture, University of California, doctoral dissertation.

Research and Development Projects

2000	The Web-Based Integrated Science Environment in Norway (WISE)
2000	ICASE/CEFIC International Evaluation Committee. Education – Industry Partnerships Conference. York, England
1993-6	Third International Science and Mathematics Study - Case study analysis of science and mathematics teaching in 6 countries (SMSO).
1994-6	OECD science project leader: Science, Math and Technology Education Project. Comparison of teaching in 15 OECD countries. The Norwegian science study concentrated on diagnostic evaluation methods at the junior secondary level.
1984-92	Project leader, Primary Science project in Norway. Analysis of the current status of primary science education, development of curriculum materials based on pupil and teacher needs, and pre- and in- service science teacher education.
1989-92	Co-leader, Project for the evaluation of science in Norwegian schools
	Research coordinator, Teknoteket - A science center in Norway. Development of science

exhibits and curriculum materials for school classes and public. University of Oslo representative to the Board of Directors of Teknoteket.

1988-92 Norwegian Council for Science and the Humanities (NAVF), Representative to the Board of Directors for the program for school related research (varamedlem for Professor Svein Lie later Vivi Ringnes), Program for utdanningsforskning – PUF

1989-1990 Consultant to the Second African Development Fund Education Project in Zambia

1989-1991 Norwegian representative to INESTE (International Network in Science and Technology Education) UNESCO.

Teaching

Naturfagdidaktikk – MN DiD 202, University of Oslo (1986-present).
5 credit course for graduate students in Science Education.

Forskningsmetoder – MN DiD 304, University of Oslo (1989, 1993-present). 3 credit course for graduate students in Science Education.

Naturfagdidaktikk – MN DiD 321, University of Oslo (2000). 3 credit course for graduate students in Science Education.

Innovations in the Teaching of Science and Mathematics (June, 1998) Organizer for the European Council/Norgesnettrådet course for European Science Teachers. Oslo, Norway.

Museumsdidaktikk – MN DiD 322, University of Oslo (1995). 2 credit course for doctoral students in Science Education.

Active Learning in Science, (1997) Estonian Ministry of Education, Tallinn, Estonia.

Science Education, University of Makerere, Uganda (Fall, 1994).

In-service courses (1986-present) for Primary Science teachers, including choice of appropriate science topics, teaching methods and gender equality.

Lecturer in Science Methods, Department of Education, University of California, Berkeley, California (1983-84).

Lecturer in Microbiology, Department of Plant Pathology, University of California, Berkeley, California (1983, 1984).

John T. Leach
Professor of Science Education, Centre for Studies in Science and Mathematics Education, University of Leeds.

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Education

1984	B.Sc. (Hons.) 2i in Pharmacology, The University of Bristol
1985	Postgraduate Certificate of Education (The University of Bristol)
1995	PhD in Science Education. Thesis title: *Progression in understanding of some ecological concepts in children aged 5 to 16.* Supervisors: Rosalind H. Driver and Colin Wood-Robinson.

Selected research and curriculum development grants

1994-1997	Young people's understanding of, and attitudes to, 'the new genetics'. Wellcome Foundation (£70k).
1995-1998	Improving science education: issues and research on innovative empirical and computer-based approaches to labwork in Europe. European Commission: (ca. £100k to Leeds).
1999-	Teaching about the nature of scientific knowledge and investigation in 'A'-level physical science courses (£45k). The Nuffield Foundation.
2000-	Evidence-based practice in science education (ESRC Research Network in the Teaching and Learning Initiative, in collaboration with the Universities of York, Southampton, and King's College, London; £438k).

Selected professional activities

Member of AERA, NARST and ESERA.
Member of the Review Boards of *Science Education* and *Research in Science Education.*
Member of the Planning Group of the Nuffield Seminar Series *Beyond 2000: Science Education for the Future.*
Member of the Steering Group of the Qualifications and Curriculum Authority project to produce a model Scheme of Work for key stage 3 of the National Curriculum .
Member of the Working Group advising the Teacher Training Agency on the Secondary Science ITT National Curriculum (1997-1998).
Member of the Steering group of the Qualifications and Curriculum Authority project to review the National Curriculum for Science (2000-).
Chair of Association for Science Education Task Group on Science Education Research.

Selected publications

General

Leach, J. and Paulsen, A. C. (Editors) (1999) *Practical work in science education: the face of science in schools* Dordrecht, NL: Kluwer.
Millar, R., **Leach, J.** and Osborne, J. (in press)(Editors): *Improving science education: The contribution of Research.* Buckingham: Open University Press.

Theoretical perspectives on teaching and learning science

Driver, R., Asoko, H., **Leach, J.,** Mortimer, E. and Scott, P. (1994): *Constructing scientific knowledge in the classroom* Educational Researcher, 23, (7), 5 - 12.

Driver, R., **Leach, J.,** Scott, P. and Wood-Robinson, C. (1994): *Progression in students' understanding of science concepts: implications for curriculum planning* Studies in Science Education, 24, 75-100.

Leach, J. and Scott, P. (1995): *The demands of learning science concepts: issues of theory and practice* School Science Review, 76, (277), 47 - 52.

Leach, J. and Scott, P. (2000) *Children's thinking, teaching, learning and constructivism*, in Osborne, J. and Monk, M. (Editors): *What research says to the science teacher.* Open University Press. (pp 41-56)

Students' epistemological understanding, teaching and learning, and the science curriculum

Leach, J., Millar, R., Ryder, J. and Séré, M-G. (2000) *Epistemological understanding in science learning: the consistency of representations across contexts.* Learning and Instruction, 10 (6), 497-527.

Leach, J. (1999) *Students' skills in the co-ordination of theory and evidence in science* International Journal of Science Education, 21, (8), 789-806.

Leach, J. (1999) *Learning science in the laboratory: the importance of epistemological understanding* in Leach, J. and Paulsen, A. (Eds.) *Practical work in science education: Recent research studies* pp 134-147 . Dordrecht, NL: Kluwer.

Leach, J. (1998): *Teaching and learning about the world of science: the influence of students' ideas* in Wellington, J. J. (Ed.) *Practical work: which way now?* London: Routledge (pp 52-68)

Leach, J. (1997): *Student's understanding of the nature of science* in Welford, G., Osborne, J. and Scott, P. (Editors): *Research in science education in Europe: Current issues and themes* (pp 269-282). London: Falmer Press

Driver, R., **Leach, J.**, Millar, R. and Scott, P. (1996): *Young People's Images of Science* Buckingham: Open University Press.

Students' learning of ecological concepts

Leach, J. T., Driver, R. H., Scott, P. H., Wood-Robinson, C. (1995): *Children's ideas about ecology 1: Theoretical background, design and methodology.* International Journal of Science Education, 17, (6) 721-732.

Leach, J. T., Driver, R. H., Scott, P. H., Wood-Robinson, C. (1996): *Children's ideas about ecology 2: Ideas about the cycling of matter found in children aged 5-16.* International Journal of Science Education, 18, (1), 19-34.

Leach, J. T., Driver, R. H., Scott, P. H., Wood-Robinson, C. (1996): *Children's ideas about ecology 3: ideas found in children aged 5 - 16 about the interdependency of organisms.* International Journal of Science Education, 18, (2), 129-142.

Prof. Dr. Manuela Welzel

University of Education Heidelberg
Faculty of Mathematics and Sciences
Keplerstr. 87
69120 Heidelberg
Germany

1978	Abitur (graduated from Advanced German Highschool (Gymnasium))
1982	Graduated as teacher for physics and astronomy
1982-1988	Physics and astronomy teacher in Neuhaus a. Rwg.
1989-1991	Postgraduate studies of pedagogy and psychology in Berlin (Academy of Educational Sciences)
1991-1994	Doctoral student and scientific staff member at the University of Bremen, Institute of Physics Education in the Physics department, in the group of Prof. Dr. Stefan von Aufschnaiter
1994	PhD (Dr. rer. nat.) with a thesis in physics education titled: Interaktionen und Physiklernen (Interactions and Learning in Physics)
1994-1999	Postdoctoral research assistent in physics education at Bremen University.
1996	2-month research stay at the University of Victoria (Canada) - with Wolff-Michael Roth
Since 1996	member of NARST (1998/99 strand co-ordinator, strand 2), AERA, EARLI (European Association of Research in Learning and Instruction)
Since 1997	member of ESERA (European Science Education Research Association)
1996-1998	member of the European Research Project "Labwork in Science Education"
Since 1999	Professor for Physics and Physics Education at the University ofEducation Heidelberg

Research interests: problems of learning and teaching, especially description and theory of learning processes, the influence of interactions on learning processes, labwork in science education, teacher training, instructional design.

Books

Welzel, M. 1995a:
Interaktionen und Physiklernen: Empirische Untersuchungen im Physikunterricht der Sekundarstufe I. Frankfurt a. Main; Bern, New York; Paris: Lang. (Didaktik und Naturwissenschaft; Bd.6)

Backhaus, U.; Breuer, E.; Liebers, K.; Mikelskis, H.F.; Schön, L.-H. & Welzel, M. 1999: Physik plus. Gymnasium Klasse 6. Nordrhein-Westfahlen. Herausgegeben von Helmut F. Mikelskis, Lutz-Helmut Schön und Hans-Joachim Wilke. Berlin: Volk und Wissen.

Articles in Books

Welzel, M. 1994:
Lernen in Kleingruppen: Überraschend individuell. In: *Der Wandel im Lehren und Lernen von Mathematik und Naturwissenschaften.* Jäkel/Schallies/Venter/Zimmermann (Hrsg.). Pädagogische Hochschule Heidelberg. Bd.2. Naturwissenschaften. 366-370.

Welzel, M. 1996a:
Eine Methode zur empirischen Beschreibung von Bedeutungsentwicklungen und Lernen bei Schülern über Verhaltensbeobachtung. In: *Repräsentation und Bedeutung.* Schriftenreihe des Zentrums für Kognitionswissenschaften. Band III. Bremen und Oldenburg. 28S.

Welzel, M.; von Aufschnaiter, C.; Schoster, A. 1999:
How to interact with students? The role of teachers in a learning situation. In: J. Leach & Albert Chr. Paulsen (Eds.). *Practical Work in Science Education: Recent Research Studies.* Roskilde University Press. 313-327.

von Aufschnaiter, S.; Welzel, M. 1996:
Beschreibung von Lernprozessen. In: *Lernen in den Naturwissenschaften.* Reinders Duit; Christoph von Rhöneck (Hrsg.). Kiel: Institut für die Pädagogik der Naturwissenschaften. 301-327.

von Aufschnaiter, S.; Welzel, M. 1999:
Schülervorstellungen und Lernen. In: Reinders Duit und Jürgen Mayer (Hrsg.) *Studien zur naturwissenschaftlichen Lern- und Interessenforschung.* Kiel: IPN. 29-43.

von Aufschnaiter, S.; Welzel, M. 1999:
Individual Learning Processes - A Research Programme with Focus on the Complexity of Situated Cognition. In: *Research in Science Education in Europe.* Dordrecht: Kluwer. 209-215.

Reviewed Journal Articles

Welzel, M. 1997:
Student centred instruction and learning processes in physics. *Research in Science Education.* 27(3). 383-394.

Welzel, M. 1998a:
First international conference of the European Science Education Research Association (E.S.E.R.A.). *Zeitschrift für die Didaktik der Naturwissenschaften.* 4(1). 92-93.

Welzel, M. 1998b:
The emergence of complex cognition during a unit on static electricity. *International Journal of Science Education. Vol. 20, 9, 1107-1118.*

Welzel, M.; Haller, K.; Bandiera, M.; Hammelev, D.; Koumaras, P.; Niedderer, H.; Paulsen, A.; Robinault, K. & von Aufschnaiter, S. 1998:
Ziele, die Lehrende mit experimentellem Arbeiten in der naturwissenschaftlichen Ausbildung verbinden- Ergebnisse einer europäischen Umfrage. *Zeitschrift für die Didaktik der Naturwissenschaften. 4(1).* 29-44.

Welzel, M.; Roth, W.-M. 1998a:
Do interviews really assess students' knowledge? *International Journal of Science Education, Vol. 20, 1, 25-44.*

Welzel, M. & Schubert-Henning, S. (accepted):
Ein Einstieg in qualifizierte Lehre - ein Kurs für Naturwissenschaftlerinnen und Naturwissenschaftler zur Förderung von Lehrkompetenz in Praktika und Übungen. In: Zeitschrift für Hochschuldidaktik.

Roth, W.-M.; Welzel, M. (accepted):
From Activity to Gestures and Scientific Language. submitted to *Journal of Research in Science Teaching*

von Aufschnaiter, S.; Welzel, M. 1997:
Wissensvermittlung durch Wissensentwicklung: Das Bremer Komplexitätsmodell zur quantitativen Beschreibung von Bedeutungsentwicklung und Lernen. *Zeitschrift für Didaktik der Naturwissenschaften. 3(2).,* 43-58.

Research Coordinator Report
Nancy Butler Songer
September 15, 2000

Research Committee Activities for Calendar Year 2000

Scope of Work

Over the past year both the membership of the Research Committee and the tasks of the Research Committee have expanded. The membership of the Research Committee currently includes: Songer (chair), Bunce, Kumar, Wallace, Holliday, Dass, Rogg, VanDriel, Whitworth, and Abell (ex-officio). Tasks this year included: the evaluations of proposals for both NSTA Annual and Regional Meetings, evaluation of NARST Pre-Conference Workshop proposals, evaluation of the research areas on the NARST membership application, an increased role on the NSTA Research Committee, brainstorming new ideas for increasing the visibility of NARST Research work, and commissioned papers sponsored by Delta Education president Thomas Richardson.

Research Presentations at NSTA Annual Meeting 2001 in St. Louis

A call went out in May for presentations at the 2001 NSTA Annual Meeting. NARST members submitted sixteen proposals for ten presentation slots at the NSTA Annual Meeting in St. Louis. Research Committee members reviewed the proposals, and ten presentations were selected which represented a broad range of classroom-focused research. NARST presenters at NSTA 2001 will included sessions by NARST members: 1) Nancy Allen, 2) Alan Buss and Patricia McClurg, 3) Allan Harrison, 4) Jim Jadrich and Stanley Haan, 5) Leslie Jones, Debra Anderson, Phyllis Anderson and Maureen Clayton, 6) Palma Longo, 7) Rena Faye Norby, 8) Renee Schwartz and Norm Lederman, 9) Deborah Roberts and Emily van Zee, and 10) Leanne Avery and Terry Dougherty.

NARST 2001 Annual Meeting Pre-Conference Workshops

A call went out in August for proposals for the NARST 2001 Pre-Conference Workshops. After formal proposals are received by September 28, 2000 they will be sent to the members of the Research Committee for review and ranking. Reviews will be returned to Nancy by October 13, 2000. Two workshops will be selected.

Research Areas on the Membership Application

At the Fall NARST Board Meeting, David Treagust charged the Research Committee to review the research areas listed on the membership application and to modify the list appropriately. Nancy will present our suggestions at the Fall Board Meeting.

Report from the International Committee to the Executive Board of NARST, October, 2000

I. **Organizational Matters:**

At the Annual Meeting of NARST in April, Sharon Lynch was appointed by the Executive Board to chair the International Committee (IC) of NARST as a newly elected member of the Executive Board. The charge of the IC is "...responsible for projects focusing on international science education research and meetings. The Chair of the IC serves as NARST's representative to the International Council of the Associations of Science Education (ICASE)." A concern was expressed by one member of the IC at the NARST Equity Committee about the representation the IC in this way. The Chair of the Equity Committee, the President of NARST, and the former chair of the IC and I discussed this and it was decided that, in order to aid the transition, Avi Hofstein, a seasoned member of the IC and a person involved in ICASE, serve as liaison to ICASE for the year. In retrospect, this may not have been the best decision. Avi has indicated that he does not feel kept abreast of NARST issues because he is not a member of the Executive Board. He has indicated that he will not be attending the NARST Annual Meeting in 2001. I have not felt well informed about ICASE, although I have now contacted Jack Holbrook, the Director of ICASE and asked to be included in any discussions involving NARST. Clearly, this is one organizational matter that needs to be discussed at the retreat of the Executive Board and at the NARST annual meeting, particularly among members of the IC.

IC Symposia:

A. ICASE traditionally offers a symposium at NARST. Avi Hofstein, as the ICASE representative and I spoke by email, and Avi suggested that the theme of "Inquiry" would be an excellent symposium topic for the 2001 NARST/ICASE symposium. Avi, in turn, contacted Roger Bybee of BSCS and asked him to chair the event. Roger agreed, and began to put together a roster of speakers on the topic, including Avi. I urged broad international representation. Unfortunately, Roger has had to withdraw from the planning due to the tragic death of a close personal friend and the associate director of BSCS. He did agree to have a staff member from BSCS send the paperwork through to Norm Lederman. I am not sure of the state of planning of the symposium at this time as Roger has clearly made it plain that it cannot be a priority of his. Apparently some participants have not been contacted. I am, at this writing, trying to reach Janet Carlson Powell of BSCS who has been listed as the first speaker on the symposium form, in order to determine whether she is taking over as chair and organizer of the symposium or has some other understanding.

Avi suggested canceling the symposium and withdrew from participation, although he has put forward the name of a colleague at the Weizmann Institute to replace him. With consultation from the NARST President and President Elect, we have decided not to cancel the symposium. But the state of the organization of the symposium has not yet been clarified. (Please see attachment A on the current state of planning.)

B. IC Symposium on Science Teacher Induction: Because I knew of an international study currently being conducted on science teacher induction, and in order to involve more IC members in a symposium with an interactive format, I put together a second IC symposium. It involves case studies on teacher induction in New Zealand and Switzerland. The presenters

include Senta Raizen and Ted Britton of NCISE, the authors of the original study; Peter Labudde from Switzerland, and Barbara Holland from New Zealand. Discussants include Judy Dori from Israel and Emmitt Wright from the US. I emailed all members of the IC and persons who attended the IC meeting in April, asking for volunteers as discussants, and these were the two who responded. It would be nice to include additional discussants from other countries, and I look forward for ideas about other persons to include. (Please see attachment B.)

III. **Communications:**

I have sent out three email communications to IC members. The first addressed the issue of representation of the Executive Board, ICASE, and the IC (please see attachment C). I received only one response and that individual said that he preferred not to comment. I sent out two more emails in September (attachments D and E), one asking for volunteers for the Teacher Induction Committee, netting two responses, and the other asking for input on any issues of concern of the IC to be addressed at the October Executive Board retreat. There have been no responses to the latter.

IV. Planning:

A. Avi will be finishing his term as co-chair of the IC in April 2001. This will leave us in approximately the same position as we were in last year, unless we have clear goals, and/or changes in mind about the way that the IC representation is constituted. We need to address the issue of representation with the IC Committee. If the main goal of the IC is to be active in ICASE and other international science education research matters, then it makes sense that the Chair be actively involved in such matters. If the Chair is selected from among elected Executive Board members, but we cannot guarantee that the elected board members are actively involved in ICASE or other international science organizations, then it seems that one of several courses of action might be taken. We could have an official ICASE representative to the Board in much the same fashion that we have a NSTA representative to the Board. I am not sure how this has been done. A second choice is to have an IC slot on the ballot for the NARST Executive Board wherein the person who runs for this Board position does so on the basis of his/her record as an international researcher in science education. (This would be the solution that I would favor.) Both of these solutions would involve changes in the by-laws, I believe. A third alternative is to have the IC elect an ICASE rep from among its membership, but this would leave us in the rather unsatisfactory position that we find ourselves in this year—communication gaps and unclear expectations. A fourth alternative is to have the NARST Board member selected to chair to the IC be prepared better to take over the position in a far more informed and formal fashion than happened in April, 2000. I had little idea about what the position entailed or what was expected of me until I got to the IC meeting. The two-sentence charge of the International Committee in the procedures does not much help. There are no procedures to follow. If the current state of affairs is to continue as I suspect it must without changes to by-laws, then it would be important for the IC chair to attend at least one such international science education meeting/year, other than NARST. Perhaps someone else can think of even better alternatives. In the meantime, I have begun corresponding with the current director of ICASE in order to get a better feeling for the organization and the way that it functions. It seems to be very fluid and nearly "virtual" as there are not a set course of meetings planned. The communication that I have received regarding ICASE and NARST are included in Attachment F. I have received no communications regarding ESERA and NARST. The ESERA website has not been updated since its 1999 posting of an upcoming event.

B. Procedures: Essentially, there are none established. I will need to look at the procedures for other committees, talk with current and former members of the IC, and bring a draft of procedures to the IC. Certainly there needs to be clarification regarding the chairship and representation, and how IC members are selected. To better assist the organization of the IC, I suggest the following, contingent on input from other members of the Executive Board at the October retreat or any feedback received from members of the IC at the Annual Meeting or before.

1. Minutes should be taken at IC meetings to record decisions taken and assist continuity.
2. Perhaps the IC, as a committee, could chose topics for the symposia to be offered the following year, as well as select symposium organizers.
3. A better email list of IC committee members and members who attend international committees needs to be organized. Too many of the emails come back undelivered, based upon the current list. The list should include individual's memberships in international organizations and research interests.
4. Due to the fact that these issues of IC representation may need some discussion at the next annual meeting of NARST, it might be wise to build in two sessions for the IC committee meetings into the Meeting Program.

I continue to be neutral on the solution to this problem of IC representation, in that if a better solution can be found, I would be happy to step aside as Chair of the IC and assume some other role on the NARST Executive Board. However, this has been an awkward time for me and for my partner on the IC, Avi Hofstein. There are virtually no written records of anything that I have been able to find, and the Procedures are vague even about the purposes of the IC and the role of ICASE vis a vis NARST. Certainly there have been several people willing help move the committee's business forward, in addition to Avi; Norm Lederman and David Treagust have been particularily helpful and the IC appreciates it.

Thank you.

Respectfully submitted,

Sharon Lynch, Chair of International Committee

BIOLOGICAL SCIENCES CURRICULUM STUDY

PIKES PEAK RESEARCH PARK
5415 MARK DABLING BLVD.
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TO: Sharon Lynch

FAX NO: 202-994-3365 **NUMBER OF PAGES INCLUDING COVER SHEET** 6

DATE: 10/4/00 **TIME:** 8:55 AM

FROM: Dee Miller

REMARKS: Per your e-mail - Faxing The Proposal Paper work.

Cover Sheet for All Proposals
Including Individual Papers in a Multiple Paper Set
Annual NARST Meeting, St. Louis, Missouri, March 25-28, 2001

This form must be completed for all proposal types. A Multiple Paper Set requires the additional Multiple Paper Set form All information for the NARST Program Proceedings will be extracted from this form. Please type the data carefully.

1. Title Inquiry in Science Education: International Perspectives

2. First Author or Symposium Proposer Information

Last Name, First, Middle Powell, Janet Carlson Contacted

Institution Biological Sciences Curriculum Study (BSCS)

Address 5415 Mark Dabling Blvd.

Colorado Springs, Colorado USA 80918
(Country) (Zip)

Please use full international telephone and fax numbers providing country code, area code, and number.

Telephone (1) (719) 531-5550 Fax (1) (719) 531-9104

E-mail address jpowell@bscs.org

Are you willing to serve as a presider/discussant for another session? ____ yes ____ no

3. Name and address of co-author(s)/panel member(s) (Complete international address)

Last Name, First, Middle Hofstein, Avi Withdrew from participation

Institution Weizmann Institute of Science

Address Dept. of Science Teaching

Rehovot Israel 76100
(Country) (Zip)

Telephone (972) (8)9343811 Fax (972) (8) 9344115

E-mail address nthofstn@wiscmail.weizmann.ac.il

Are you willing to serve as a presider/discussant for another session? ____ yes ____ no

Last Name, First, Middle Okebukola, Peter Not Contacted

Institution ____

Address ____

____
(Country) (Zip)

Telephone (___) (___) ____ Fax (___) (___) ____

E-mail address pokebukola@hotmail.com

Are you willing to serve as a presider/discussant for another session? ____ yes ____ no

Please use a extra copy of this page to list additional authors or panel members.

NOTE: NARST provides an overhead projector for presenters. You are responsible for the cost of other equipment.

Language for presentation if other than English ____

PROPOSALS MUST BE RECEIVED NO LATER THAN AUGUST 15, 2000

Cover Sheet for All Proposals
Including Individual Papers in a Multiple Paper Set
Annual NARST Meeting, St. Louis, Missouri, March 25-28, 2001

This form must be completed for all proposal types. A Multiple Paper Set requires the additional Multiple Paper Set form All information for the NARST Program Proceedings will be extracted from this form. Please type the data carefully.

1. Title Inquiry in Science Education: International Perspectives

2. First Author or Symposium Proposer Information

Last Name, First, Middle _____

Institution _____

Address _____

_____
Country Zip

Please use full international telephone and fax numbers providing country code, area code, and number.

Telephone (___)(___)_____ Fax (___)(___) _____

E-mail address _____

Are you willing to serve as a presider/discussant for another session? _____ yes _____ no

Name and address of co-author(s)/panel member(s) (Complete international address)

Last Name, First, Middle Treagust, David Not contacted

Institution Curtain University

Address _____

_____
Country Zip

Telephone (___)(___)_____ Fax (___)(___) _____

E-mail address _____

Are you willing to serve as a presider/discussant for another session? _____ yes _____ no

Last Name, First, Middle _____

Institution _____

Address _____

_____
Country Zip

Telephone (___)(___)_____ Fax (___)(___) _____

E-mail address _____

Are you willing to serve as a presider/discussant for another session? _____ yes _____ no

Please use a extra copy of this page to list additional authors or panel members.

NOTE: NARST provides an overhead projector for presenters. You are responsible for the cost of other equipment.

Language for presentation if other than English _____

PROPOSALS MUST BE RECEIVED NO LATER THAN AUGUST 15, 2000

Additional Form for Multiple Paper Sets

Annual NARST Meeting, St. Louis, Missouri, March 25-28, 2001

This form must be completed for all multiple paper sets in addition to the cover sheet that is used for each individual paper in the set. The purpose of this form is to insure that all the papers in the multiple paper set are grouped together and listed in the desired order. Please type the data carefully.

1. Session Title Inquiry in Science Education: International Perspectives

2. Organizer of Multiple Paper Set:

   Last Name, First, Middle _____

   Institution _____

   Address _____

   _____

   Country Zip

   Please use full international telephone and fax numbers providing country code, area code, and number.

   Telephone (___)(___)_____ Fax (___)(___)_____

   E-mail address _____

3. Presentation titles and authors for the individual presentations that comprise this multiple paper set. No more than 4 papers may be included in one multiple paper set. This information must be the same as the information provided on the individual cover sheets.

   Presentation 1 title _____

   _____

   Presentation 1 author(s) _____

   Presentation 2 title _____

   _____

   Presentation 2 author(s) _____

   Presentation 3 title _____

   _____

   Presentation 3 author(s) _____

   Presentation 4 title _____

   _____

   Presentation 4 author(s) _____

4. Discussant. You must obtain a commitment from this person. Every attempt will be made to honor this request. However, a conflict might require us to assign an alternate NARST member for your session.

   Name: Richard Duschl contacted

   Institution: Kings College London, Franklin-Wilkins Bldg.

   Address: Waterloo Bridge Wing, Waterloo Road

   London SE1 8WA United Kingdom

   Telephone (___)(44)0207 848 3144 Fax (___)(44) 0207 848 3182

   E-mail: richard.duschl@kcl.ac.uk

NARST Session Selection Form

In order to facilitate the placement of your NARST presentation in the appropriate strand and session format in the program, and to facilitate its review, we are asking you to categorize your proposal. Please select the program type and time desired. Indicate order of preference for both program type and time desired (where options are available).

SESSION FORMAT

Please carefully read the descriptions of the session format types before making your selections.

_____ Paper Session Organized by Program Committee
(No time options available)

If necessary, would you be a part of an interactive poster session? _____ yes _____ no

__X__ Symposium
Time Options:
_____ 60 minutes
_____ 90 minutes (limited availability)

_____ Discussion Group Organized by Program Committee
(No time options available)

_____ Multiple Paper Set
Time Options:
_____ 60 minutes _____ 90 minutes

_____ Round Table
(No time options available)

_____ Novel Format
Time Options:
_____ 30 minutes
_____ 45 minutes
_____ 60 minutes

A description of your session is required for novel formats

_____ Poster Session
(No time options available)

_____ Interactive Poster Session
(No time options available)

What You Must Submit:

FOR ALL SESSION TYPES EXCEPT MULTIPLE PAPER SETS

Check off that you have included these items:

_____ 2 Copies of the Cover Sheet
_____ 2 Copies of this form
_____ 5 Copies of an abstract stapled to copies of synopsis using the guidelines supplied
_____ 1 Computer disk containing an abstract in a rich text file and labeled with the authors' names, paper title, and type of machine used to create the file (MAC, PC)
_____ 5 Copies of a 2-4 page, single-spaced synposis. Please omit names and other identifying information on 4 copies. Please staple in the upper left hand corner.
_____ 2 business-size, self-addressed envelopes (with postage for USA residents)
_____ **For novel format only:** in addition to all of the above items, please include 2 copies of a description of your session format

FOR MULTIPLE PAPER SETS

Check off that you have included these items

_____ 2 copies of the Cover Sheet for each paper in the set
_____ 2 copies of this form
_____ 2 copies of the Additional Form for Multiple Paper Sets
_____ 1 computer disk containing a separate abstract for each paper in the set in a rich text file and labeled with the proposer's name, session title, and type of machine used to create the file (MAC, PC).
_____ 5 copies of a 5-10 page, single-spaced integrated synopsis. Please omit names and other identifying information on 4 copies. Please staple in the upper left corner.
_____ 5 copies of a separate abstract for each paper in the set; a copy of each abstract should be stapled to a copy of the integrated synopsis
_____ 2 business-size envelopes addressed to the MP set proposer (with postage for USA residents)

ABSTRACT PREPARATION

All abstracts will be published in the form and condition in which you submit them. Thus, any error(s) made in your abstract also will appear in the final printed copy. Therefore, care must be taken in preparing your abstract. The following instructions are to be used as a guide for preparing your abstract. ABSTRACTS NOT MEETING ALL REQUIREMENTS WILL BE RETURNED. This also could result in rejection of your proposal.

1. *Computer Disk Submission*: In addition to 4 paper copies of the abstract, submit 1 copy of the abstract in rich text format on a 3 1/2 inch (8.8 cm) floppy disk. Prepare the abstract using a 12-point font such as Geneva, Helvetica, Arial or Times New Roman. Write on the outside of the disk the names of the author/proposer, the proposal title, and the type of machine used to create the file (i. e., MAC, IBM, etc.).
2. *Length of Abstract*: Limited to 200 words. All abstracts in excess of 200 words will be cut at the end of the sentence nearest the 200 word limit.
3. *Titles*: Use a cogent and coherent, yet concise, title that reflects the abstract's content.
4. *Author(s) and Institutions(s)*: Immediately follow the title with name(s) of the author(s) and institutions(s).
5. *Abstract Text*: Type the entire abstract as a single paragraph. See sample below.

Sample Abstract* (Times New Roman, 12 pt.)

Confidence Level In Teaching Science, Critical Thinking, and the Use of Varied Teaching Strategies

Catherine G. Yeotis and Linda Bakken, Wichita State University

The purpose of this study was to measure any change in the confidence level of teachers who participated in four weeks of intensive instruction. The 175 participants received two hours of specific science content information and three hours of instructional methodology information daily. Confidence level was measured by a 12-item Likert scale instrument designed by the authors of the study. Pre and post scores were analyzed for any significant change. Results indicated that both groups (elementary and secondary) reported significant gains in confidence levels. Statistical analyses conducted on each of the three focus areas of the instruction supported the aim of the project.

Inquiry in Science Education: International Perspectives

Janet Carlson Powell, Biological Sciences Curriculum Study; Avi Hofstein, Weizmann Institute of Science; David Treagust, Curtain University and Peter Okebukola,

This symposium reviews the theme of INQUIRY from several perspectives of four different countries. Each speaker will describe the way scientific inquiry is addressed in national policies and local practices in his or her respective country. The participants and discussants will differentiate the role of inquiry as learning outcome and teaching strategy. Implications for research in science education policy, programs, and practices will be described.

Attachment A (con)

WebMail - RE: Seeking Discussants for IC Symposium at 2001 NARST Annual Meeting

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Date Sent: Sunday, September 17, 2000 5:12 AM

From: Avi Hofstein <nthofstn@wisemail.weizmann.ac.il> [Add to Address Book]

To: slynch <slynch@gwis2.circ.gwu.edu>

Subject: RE: Seeking Discussants for IC Symposium at 2001 NARST Annual Meeting

[Status] ☐ Urgent ☐ New

Dear Shron

I talked with Rachel Mamlok and she is agreeing to participate in the inquiry symposium. She is also at the weizmann Institute (e-mail: ntmamlok@wise.weizmann.ac.il . Department of Science Teaching, The Weizmann Institute of Science,76100, Israel. (tel: 972-8-9342446, fax: 972-8-9344115)

Hope this helps

Avi

Dr Avi Hofstein
Department of Science Teaching
Thre Weizmann Institute of Science
Rehovot, 76100, Israel
tel:972-8-9343811
fax:972-8-9344115

Attachment B

Title: Science Teacher Induction Around the World: Two Cases Studies and a Discussion

Organizer and Chair: Sharon Lynch

Presenters: Edward Britton NCISE, Senta Raizen NCISE, Peter Labudde (Switzerland) and Barbara Hollard (or her designee) New Zealand Ministry of Education

Discussants: Judi Dori (Weizman Institute, Israel), Emmett Wright (KSU, USA)

Acknowledgements: The original study was conducted by Lynn Paine, Daniel Chazen, David Pimm, and Suzanne Wilson of Michigan State University, as well as by Senta Raizen and Ted Britton of NCISE. We are especially indebted to Lynn Paine for her original conceptualization of the symposium and the issues delineated in this proposal. A version of this study was originallya presented at the AERA Annual Conference, April, 2000 (Paine, et al, 2000).

Educational Importance: Conceptualizing teacher learning of beginning science teachers.
Recent studies, the Third International Mathematics and Science Study (TIMSS) among them, indicate that there are sharp differences in the ways in which teachers are supported to engage in teaching that leads to student learning in science and mathematics (Ma, 1999; Office of Educational Research and Improvement, 1998; Stigler et al., 1999; Schmidt et al., 1999). One theme emerging from these data is that teacher induction appears to be a critical moment in which teachers develop skills and understandings that empowers their practice.

Much of U.S. discussion of induction recognizes its importance to building a strong teaching force. But in the U.S., up to one third of new teachers leave the profession within the first few years, according to recent reports of the National Commission on Teaching and America's Future. One reason for this problem is the typical sink or swim approach toward teaching often found in U.S. schools (Moskowitz & Stephens, 1997; National Commission on Teaching and America's Future, 1996). Therefore, there is much to be gained from a discussion of how other countries support their teachers in the induction years. Arguments like these tend to explain the general significance of effective teacher induction in terms of teacher retention, as well as strengthened practice (Darling-Hammond, 1997).

In this period of international systemic reform, it is imperative to move beyond a generic understanding of the importance of teacher induction and examine how good science teaching can be supported by induction practices, as they have been institutionalized in various international venues. In particular, how can practices allow novices to deepen their subject matter knowledge, to learn and refine skills of subject matter pedagogy, to gain understandings of how to reach all their students. How can induction activities allow new teachers to move from the discrete, often theoretical knowledge of preservice education to develop a practice of science instruction that is rigorous, challenging and effective for all students? What supports are available for teacher learning during the period of transition to and induction into classroom teaching? What allows novices to move beyond persistent beliefs that novices retain based upon their own experiences, to more effective and thoughtful practice? This interactive symposium will portray two systems of what appears to be unusually effective teacher induction practices in New Zealand and Switzerland. Moreover, it will ask participants from the International NARST community to discuss similarities and differences in induction practices in respective countries in order to broaden the scope of the original study.

Even though existing research indicates a wide range of practices that can be effective for facilitating teacher induction, in the U.S., discourse on reform of teacher induction is rather narrow and underconceptualized. However, increasingly, there is increasing legislation at the state level and policy activity at the district level creating or directing programs of induction (Furtwengler, 1995; Fideler & Haselkorn, 1999). Yet policy mandates rarely rest on robust ideas about teacher learning in induction, and often fail to effectively support programs. Examining induction conceptually is important to address these problems—we need to understand what teachers need to learn at this time, the structures that enable such learning, and how that learning may be attached to lessons previously learned. Conversely, under what circumstances does the environment of the school that a teacher finds him-/herself in trump all prior learning?

Previous scholarship suggests that, at its heart, induction is the moment when theory meets practice. The may be particularly true for science teaching, where new standards for learning push

beginning teachers to construct a practice that they understand in theory, but have never personally experienced. One such example is inquiry-based science teaching. Research on teacher learning argues that learning to teach in situ—during practica or in the first years on the job—allows teachers to understand teaching as a practice and to construct knowledge-in-action (Schon, 1990).

As science education reform emphasizes how teachers develop their practice, induction as a dimension of teacher knowledge and early professional development is especially important. The split between liberal arts science faculty and teacher educators that often characterizes preservice education in the U.S. may be breached more effectively in other countries. Moreover, policy and research have been relatively inattentive to the specific challenges related to science teaching and learning, as distinct from other subjects, and have generally been limited to studies of mentoring. Thus a goal of this seminar is to expand our notion of science teacher induction activities across the globe in order to understand and capture an array of induction structures and practices.

Objectives of the session: The proposed symposium grew out of a NSF-funded study of policies and practices supporting the induction of beginning teachers and their growth toward becoming skillful teachers of mathematics and science. Middle Grades Mathematics and Science Teacher Induction in Selected Countries, is a project undertaken by researchers at the National Center for Improving Science Education (NCISE/WestEd) and at Michigan State University. It examined how novice teachers--through their preservice practice or their induction experiences in their first years of employment—make the transition form academic education to the realities of classrooms and pupils. In doing so, effective induction enables novice teachers develop pedagogical understanding and professional practice. The study examined the practices of countries other than the U.S. to understand a full range of professional development approaches, and to explore the requirements for taking these initiatives to scale and implementing them systematically, rather than in an ad hoc, incremental and idiosyncratic fashion.

To advance the idea of science teacher induction as more generic than "teacher support", the session will provide images of induction in two countries, Switzerland and New Zealand. Based upon these two initial cases, discussants (2) will describe what they see as crucial to the induction process. Then members of the audience will have an opportunity to discuss critical features of the induction process that emerge from the cases, as well as defining important aspects of science teacher induction within their own countries. Finally, the researchers and discussants will attempt to capture the critical features of effective induction, and through the use of group notes, catalogue promising practices in other countries.

The goal in this session is to encourage dialog about science teacher induction among researchers from across the globe. Participants will be encouraged to think about assumptions about the purposes, practices, and practitioners of induction, and the policies that encourage effective induction. In doing so, we hope to conceptually develop our understanding of induction and the range of induction practices of science teachers.

Data: All countries struggle with the link between teachers' theoretical understanding and their development of practice. Yet recent research (Padilla et al, 1999; Moskowitz & Stevens, 1997; Shimahara & Sakai, 1995; Office of Educational Research and Improvement, 1998; Paine, 1990) demonstrates that exemplary practice in teacher induction may more likely be found outside the U.S. After an initial investigation of 11 countries for which there was evidence of successful support structures for beginning teacher' learning as well as high student achievement in mathematics and science, four countries were selected for full case studies: China (Shanghai) and France for mathematics, and New Zealand and Switzerland for science. The symposium will focus on the latter two.

--In New Zealand, schools receive funds to provide new teachers with a full salary, but 20% release time to participate in intensive coordinated strategies for professional development to enable new teachers to excel. Schools designate an Advice and Guidance Coordinator who matches new teachers to mentor teachers to help them with their instructional practices. Support strategies for new science teachers include: observing other science teachers, being observed by other science teachers, consulting with mentors on lesson planning and instructional practices, and participating in school-based and out-of-school professional development activities.

--In Switzerland, external neutral teaching advice is offered to new teachers. For instance, the government of the Kanton of Zurich (Switzerland) finances its teacher preparation institutions to offer free advice to new teachers, pays for counselors to establish networks of sets of about six new teachers from different schools to meet regularly for peer and expert support in facing teaching dilemmas, and pays institutions to

offer short courses (meeting once for 3-4 hours) on topics frequently raised by teachers (cf., Labudde & Pfluger, 1999; Labudde et al, 2000; Labudde, 2000).

While these examples represent only part of the more complex weave that makes up the fabric of a beginning teacher's preparation and transition to teaching, they suggest a range of practices, differing in their assumptions about what is to be learned and how this is to be accomplished. The symposium draws on a combination of the preliminary research, exploratory field trips, and more extensive field work. Each site focused on science teacher preparation in the middle grades. The field data also included a survey of special programs or workshops targeting new teachers; interviews with novice teachers, mentors, supervisors, administrators, teacher educators, and policy makers; and, the collection of related documentation.

How the symposium will be organized:

The symposium will be begin with a presentation of the overall project by Senta Raizen who will provide the background framing of the study, its questions and methods. Following this, the two cases studies will be presented: the Swiss case will be given by Senta Raizen and Peter Labudde. Following the case, two discussants from two countries other than Switzerland will comment on their perceptions of the case (5 minutes each). Following this, participants would break into small groups to discuss the case. All groups would be asked to explore the same questions: the purposes of induction (and what one is being inducted into—for example, some version of science teaching, a career, a profession, a school, etc.); the nature, form and content of induction practices; and, assumptions embedded in the location of induction and those engaged in that practice. Researchers and discussants will facilitate the small group discussions and report back to the large group about how the discussion connected with conceptual issues. Following the Swiss case, Ted Britton and (Barbara Hollard from New Zealand) will present the second case on teacher induction there, followed by discussant comment and small group discussion and reporting back. Finally, the participants will get into small groups of their choosing, and describe teacher induction practices in their respective countries. Participants will be given forms that ask them to respond to key questions. These responses will be collected and the responses collated as new additional source of data on the state of international teacher induction. The report will be available to all symposium participants and may spur further science teacher induction research among NARST members across the globe.

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             October 5, 2000                          3:20pm

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Attachment C

WebMail - IC news

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Date Sent: Tuesday, June 20, 2000 4:52 PM

From: Sharon Lynch <slynch@gwis2.circ.gwu.edu> Add to Address Book

To: Avi Hofstein <nthofstn@wis.weizmann.ac.il>,

Subject: IC news

Send Urgent New

A

Dear International Committee (IC),

Greetings! This is going to rather lengthy so I hope you are able to find the time to carefully read it all. This will update you on the progress of matters related to the IC since last we met in New Orleans. We have no minutes from the New Orleans meeting, so I am reconstructing things from my notes. There are several items to consider:

1. IC co-chair: To assist in continuity, Avi Hofstein has agreed to co-chair this committee. This will be especially helpful in ICASE matters.

2. NARST Program 2001: In 2000, there was one 90 minute session devoted to IC matters, sponsored by ICASE. For 2001, I have requested two 90-minute sessions for IC issues.

a. One will be sponsored by ICASE. Avi has suggested "Science Inquiry as practiced in K-12+ schools, internationally" as the topic and that Rodger Bybee organize this symposium. Rodger has agreed, and should be quite interesting to explore this topic from an international perspective.

b. For the second slot, there is a possibility of introducing new international research on science teacher induction, led by Senta Raizen. International Committee members will be invited to serve as discussants, if we can get this on the program.

c. Of course, International members always have the option of organizing their own papers and symposia, across NARST strands.

d. We welcome your suggestions.

a. NARST Elections: I believe that the NARST Board currently has only Leonnie Reynolds as an international member, although others on the Board were born in countries other than the US, but currently work in the US. We need to make sure that there is a good international representation for the upcoming NARST election, without nominating so many individuals that the vote is split. While active campaigning is discouraged, informal word-of-mouth contacts on behalf of strong international member candidates may be helpful getting broader representation on the NARST Board.

b. Leadership of the IC: The NARST by-laws state that the IC should be made up of 2/3 international members and 1/3 US members. Also, as is the case always, newly elected Board members are given the responisibility of chairing committees where there are vacancies. This is how I came to chair the IC--I was assigned this role. The last two chairs of the IC were NARST Executive Board members who happened to be international members. The issue of representative leadership of the IC was raised in a meeting of the Equity Committee at the NARST meeting. I think that it is not an equity issue, but rather a NARST by-laws issue that should have been more properly raised within the IC, FIRST. To be clear, if there is an objection to having a US NARST member serve as the chair of the IC, IC members should have the opportunity to discuss this at the IC meeting or within a list serve such as this one.

This would be good topic for us to consider: Does the IC want an IC chair who also must be an international member? If so, then this would involve a change in bylaws. As the current chair, I would be happy to put forward any proposals, once we get a sense of the IC's response to this issue. I will certainly try and do my best as chair of this committee, and this includes stimulating a reasonable discussion on directions for the IC over the next five years, and how this, in turn, involves the selection of its leadership. I personally feel very flexible on this matter (I would be willing to step aside and have in international member chair the IC next year if a one were elected to the NARST Board), as long as it is openly discussed among us and construed as a bylaws issue.

I know that some international members feel strongly that the current state of affairs for international members is the best one--that is, international members are integrated into all of the NARST strands and have many options as NARST members. Someone at our IC meeting in New Orleans cautioned against the "ghettoization", and David Treagust feels strongly that the current state of affairs, integration of international members with all aspect of NARST, is he most desirable one. However, some of you may feel differently, and we should begin to discuss this. I welcome your comments on this and all of the things that we have been talking about. There in a retreat for the Executive Board in October and I want to be able to represent your views, or the diversity of your views,

Thanks.

Best,

Sharon Lynch, Ph.D.
Professor
George Washington University
Graduate School of Education and Human Development
Department of Teacher Preparation and Special Education
Washington, DC 20052
202-994-6174 FAX: 202-994-3365

Attachment D

WebMail - Seeking Discussants for IC Symposium at 2001 NARST Annual Meeting

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Date Sent: Sunday, September 10, 2000 9:26 PM

From: Sharon Lynch <slynch@gwis2.circ.gwu.edu> [redacted]

To: aufschna <aufschna@physik.uni-bremen.de>,

Subject: Seeking Discussants for IC Symposium at 2001 NARST Annual Meeting

Status: ☐ Urgent ☐ New

A

Dear NARST IC and interested members,

I have been working to put together an IC-sponsored symposium for the 2001 NARST Annual Meeting. The topic is on science teacher induction and will feature two case studies done by the National Center for Improving Science Education and researchers from Michigan State University. The cases will be on science teacher induction in Switzerland and New Zealand. You may be aware that science teacher induction is not highly developed in the U.S., for the most part.

I am seeking discussants who are NOT from New Zealand or Switzerland. Is there anyone among this list who is directly involved in science teacher induction, and who would like to participate? Please let me know.

The goal of this session is to be highly interactive and to move the discussion beyond the two cases, capturing promising practices across the globe, as we build a conceptual framework on how teacher induction is viewed in different countries.

If you know of a NARST colleague who could be a contributor, please pass this along, and don't be afraid to self-nominate.

Thank you.

Best,

Sharon Lynch, Chair, IC
Professor
George Washington University
Graduate School of Education and Human Development
Department of Teacher Preparation and Special Education
2134 G St. NW
Washington, DC 20052

Attachment E

WebMail - NARST International Committee and NARST Board Retreat

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Date Sent: Sunday, September 10, 2000 9:13 PM

From: Sharon Lynch <slynch@gwis2.circ.gwu.edu>

To: aufschna <aufschna@physik.uni-bremen.de>,

Subject: NARST International Committee and NARST Board Retreat

Urgent New

A

Dear Members of the NARST International Community,

The list of people above are those who attended the IC meeting last April at the NARST Annual Meeting in New Orleans. However, please feel free to forward this to any other international members whom you think would be interested in this message.

In mid-October, the NARST Executive Board will meet for its annual retreat. The agenda is ambitious. NARST is growing and to some extent may have outgrown its old ways of doing business. The goal of the retreat is to do some long range planning that will position NARST for the next five years.

Regarding the NARST's international members, much of the news seems good. A larger proportion o the membership is international and the international representation is healthy in terms of NARST publications, and in presentations and attendence at the Annual Meeting. Please refer to David Treagust's speech at the last Annual Meeting, printed in a recent issue of NARST News.

However, the world is changing quickly, and we should be ready to foresee developments within NARST and outside it that can make it even a better organization for all of its membership, with a special focus on the international community of NARST.

So the purpose of this message is to solicit your comments, suggestions and concerns, so that I can best represent you at the annual retreat. In addition, Peter Okebukola will also be attending the retreat. As the former chair of the IC, he will also be able to weigh in with his ideas and a history of the IC over the last three years.

So please use this list to generate discussion among this group, or reply directly to me.

Finally, as matter of information, the current IC consists of the

following members: Emmett Wright, Isabel P Martins, Dorit Maor, Judy Dori, Avi Hofstein (ICASE representative for NARST), Martina Nieswandt, Pamela Abder-Fraser, Chin-Yen Chang, Wolfgang Graeber, Yoshisuke Kumano, Brian Murfin, and Deborah Pomeroy with Sandi Abell ex-officio. According to the new by-laws, the IC consists of an appointed chair, and 9 members, 2/3 from outside the US.

I look forward to hearing from you.

Best,

Sharon Lynch, Chair IC
Professor
George Washington University
Graduate School of Education and Human Development
Department of Teacher Preparation and Special Education
2134 G St. NW
Washington, DC 20052
202-994-6174 FAX: 202-994-3365

Attachment F

WebMail - RE: ICASE and NARST

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Date Sent: Tuesday, September 26, 2000 8:11 AM

From: slynch [redacted]

To: Jack Holbrook <icase@logos.cy.net>

Cc: Avi Hofstein <nthofstn@wis.weizmann.ac.il>,

Subject: RE: ICASE and NARST

[redacted] ☐ Urgent ☐ New

Dear Jack, That was very helpful indeed. What would be most helpful on the website would be a list of future venues for ICASE, so that we could learn who is attending from NARST and get a report back, and/or plan to get someone on the NARST IC there.

NARST too has a changing cast of characters. Peter Okebukola has finished his term of office on the Executive Board and as chair of the IC. I am now on the Board, and have taken his place as chair of the IC. Avi and I are working together this year to help with continuity. But as I said, Avi is due to rotate off the IC, and I am trying to anticipate how to keep information flowing and activities happening. In addition, Art White is no longer executive secretary of NARST, and is succeeded by David Haury. I am not sure whether this makes David your new general NARST contact, but will find out within the next month.

The current and past Executive Board of NARST will be involved in a planning retreat in October. That will give us the opportunity to discuss these things. After the retreat, I will certainly have more news for you, and will probably be asking more questions as well.

It is tremendously helpful to know that I can contact you regarding ICASE matters at they pertain to NARST. You seem to have good handle on the expertise and interests of ICASE/NARST members.

At the annual meeting of NARST, we intend to have an ICASE sponsored symposium. If you do attend NARST, I would certainly like to sit down and have a long conversation about all of this. It is pretty complicated,no? I will certainly make it a point to seek out Joe Pederson and get more information from him, either at AETS or NARST.

My last question, if I dare ask, is how to find out more about ESERA and its relation to ICASE and NARST. Is there a knowledgable contact person, like you?

Thanks for all. I look forward to meeting you in one part of the world or the other.

>> suggest some times that you might be available.
>>
>> Please use Avi as your main contact, but if you could, please also include
>me.
>> I will do the same, if anything pertinent comes up.
>>
>> I suppose that a primary question is whether ICASE has its own meetings,
>or
>> whether they are necessarily held in conjunction with other international
>> conferences such as the one to be held in Goa in February. To the best of
>> your knowledge, has the NARST representative to ICASE attended most ICASE
>> meetings? You mentioned in your email message to Avi a joint research
>> symposium at NARST. We currently are planning to sponsor such a symposium
>> (labeled an ICASE symposium on inquiry). Is this what you had in mind?
>We do
>> something like this every year. Or do you have something more formal and
>> structured between the two organizations in mind? I get the impression
>that
>> ICASE, because of its international focus, must operate loosely, wherever
>> there are critical masses of science education researchers coming
>together,
>> and as such it is a fairly fluid organization. One last question, because
>> NARST is a member organization of ICASE, does this in turn mean that each
>> individual member of NARST is also an ICASE member? Thanks. I hope these
>> questions are not too simple, but I have to start somewhere.
>>
>> Best,
>>
>>
>> Sharon Lynch
>> The George Washington University
>> 2134 G St. NW
>> Washington, DC 20052
>>
>> Phone: 202-994-6174 FAX: 202-994-3365
>>

>And finally I should mention that anyone from NARST can become
>the ICASE President if they so wish. In fact, the ICASE President-elect has
>just resigned and ICASE now needs to seek nominations for this position It
>does carry responsibility but the current President who becomes Immediate
>past President is still on the committee. The main continuity however has
>been by having an appointed secretary (although that was changed at the last
>General Assembly)
>
>
> How close did I get to answering the questions ? Please do feel
>free to ask more and to help you make links with Joe Peters, I hope you will
>permit me to copy this to him.
>
> Jack Holbrook
>
>
>
>
>----- Original Message -----
>From: "Sharon Lynch" <slynch@gwu.edu>
>To: "Jack Holbrook" <icase@logos.cy.net>
>Cc: "Avi Hofstein" <nthofstn@wisemail.weizmann.ac.il>
>Sent: Monday, September 25, 2000 4:37 PM
>Subject: ICASE and NARST
>
>
>> Dear Jack,
>>
>> I am writing to you as a member of the Executive Board of NARST who was
>> assigned the chairship of NARST's International Committee (IC) last April.
>A
>> primary goal of the International Committee is to focus on international
>> science education research and meetings. The chair of the IC is to serve
>as
>> NARST's representative to ICASE. Because I was new to the IC and to
>ICASE,
>> Avi Hofstein very generously volunteered to get us over the hump in this
>first
>> year as we are figuring out representation--he is NARST's ICASE
>> representative.
>>
>> However, Avi ends his three-year term on the IC in April of 2001, and I
>would
>> like to plan a transition that makes sense. Avi forwarded to me your
>email of
>> Sept. 11, and I have carefully perused the ICASE website.
>>
>> I have some specific questions, and I wonder if a telephone conversation
>might
>> not be the best way to handle this? I would be happy to call you, if you

>===== Original Message From Jack Holbrook <icase@logos.cy.net> =====
>Dear Sharon.
>
> Many thanks for your message. I'll try to do my best
>to answer.
>
> Certainly we can talk by telephone if we can figure out the time
>zone changes. At the moment Cyprus is on GMT +3 because it is summer time
>here until approximately the end of October. I am usually in during the
>evenings which I suspect will be the best time for you to call and rarely go
>to bed before midnight. My telephone is +357-5-633023
>
> However I hope I can make a good stab at answering your
>questions by e-mail.
>
>1 I note Avi is the NARST representative to ICASE. This is fine.
>
>2. I note you may wish to change this in the future. NARST is perfectly
>entitled to do so at any time NARST wishes. The NARST representative is
>entirely a matter for NARST and ICASE simply follows your instructions. At
>the moment I try to keep Art White informed as well as Avi (I hope it helps
>Avi a little) and there is no reason why you are not on the mailing list
>also. More and more information is sent out by e-mail and hence it is not a
>real problem at my end.
>
>3. I apologise for the ICASE website. We have been very lax in keeping
>that uptodate. I am hoping to get Joe Peters helping us on this(the
>current ICASE North American representative, nominated by AETS and voted in
>by all North American ICASE members organisations). In the future I hope it
>becomes more helpful.
>
>4. ICASE does have its own meetings. But because organisations in North
>America are so strong we have tended to concentrate on getting people
>together in other areas of the world. Since its inception in 1973, we have
>held 11 regional conferences in Asia and 3 in Latin America, unfortunately
>none in Africa (very difficult) nor Europe (ASE domination). Next month we
>will hold a science education research symposium with the University of
>Utrecht in the Netherlands (a 2 yearly on-going series having a unique style
>suited to discussion on the presentations made). I need to point out
>that ICASE
>members are associations and also institutions like the University of
>Utrecht.
>
> The Goa conference is not an ICASE meeting, but ICASE is involved
>because it is one of the international NGO partners working with UNESCO on
>trying to mobilise Project 2000+ (there are 4 others and I can give more
>details if you have interest). ICASE wishes to take the opportunity of
>this conference to hold its General Assembly, the second time we have

>attempted this in a developing country (both times being India). And yes,
>the General Assembly has always been held in conjunction with an
>international event.
>
>5. As far as I can remember, NARST is a founder member of ICASE and has
>thus been associated with ICASE for 27 years. I think NARST representatives
>have tended to be present reasonably frequently at ICASE General Assemblies,
>although I think the N.American representative has only once been from
>NARST. Perhaps Prof John Penick would know more as he was heavily
>involved for a number of years in the late 1980's and early 1990's.
>
>6. ICASE does try to link with its member organisations and try to help
>them inject an international flavour where they so wish. The idea of a joint
>research symposium was really promoted by Peter Okebukola (he was perhaps
>more aware of ICASE as he links with STAN in Nigeria). Peter promoted it
>and ICASE tried to respond using its international contacts. If such
>symposia
>are in the interests of NARST and ICASE, there is no reason why we cannot
>continue responding in whatever pattern is most appropriate.. One of the
>major difficulties ICASE faces is the funding for persons to travel.
>ICASEdoes not have such funds, and thus we rely on the participant getting
>their own. This leaves us with a dilemma as we dont know who we can involved
>in a symposium
>until the last minute. Getting into the NARST programme has thus been a
>headache and Peter did an excellent job there.
>
> If you are planning a NARST/ICASE symposium next year, please let
>Joe Peters, the ICASE N.American rep. and myself know. We will then try to
>help
>find appropriate persons to participate from outside N.America. For
>something more formal, if we like the idea, I think it is best if Joe Peters
>works on it. In the past, I think some 10 years ago, ICASE actually printed
>the winning NARST award papers to help NARST, as NARST was not able to do
>that at the time. We then sent them around the world.
>
>7. ICASE, being international as you say, tried to do things where there
>is a need and it has the resources to do so. This is very dependent on the
>initiatives of the Regional representatives. Most ICASE Executive Committee
>members are closer to teacher development and classroom operations than
>towards publishing research, but there is a small group including myself and
>the European representative who are trying to promote this aspect.
>
>8. All NARST members are technically members of ICASE (membership fees to
>ICASE are calculated on the size of the organisation). However ICASE does
>not have individual members as such and hence all interactions with NARST
>members are through the NARST Executive. And this can be as strong or as
>weak as the NARST Executive wishes. The ICASE journal does not carry
>copyright and NARST is very welcome to make this available to all its
>members. NARST members can contribute to the ICASE journal.
>

Publications Advisory Committee
October 13-14, 2000
St. Louis, Missouri

Committee Members:
Charlene M. Czerniak, Chair
Jane Butler-Kahle
Larry Enochs
Julie Luft
Roger Johnson
Jim Gallagher, JRST Editor
Andy Anderson, JRST Editor
Helen Parke, NARST NEWS Editor
Randy Yerrick, NARST NEWS Editor
Beth Klein, Director of Electronic Services
Ex-officio: Sandra Abell

1. NARST Monographs:

The Committee has not received any monograph proposals during the year.

2. NARST-NET:

NARST Web and Listserv Report
Beth Klein
March-August 2000

Report prepared by Beth Shiner Klein, NARST Electronic Services Director and Karl Klein, NARST Webmaster

- Purged out-of-date listserv addresses, added the NARST digest listserv option,
- Upgraded web site and listserv software.
- New NARST web site designed and implemented. Included development of new graphics, and page layouts and rebuilding of old page contents into new layouts. Added new elements such as, Job Announcements, Membership Information, and Resources Links
- Currently evaluating new server options, new server software, web forum software and web form software. SUNY Cortland expected to upgrade campus Internet connection from a T-1 to an OC-3 Line September 30, 2000, partially as a result of the NARST web and listserv.

Budget information. The FY2000 Electronic Services allocation is being spent on a server upgrade.

Budget requests:

Part-time student assistant (5 hrs/week) cost estimation: $1917

Individual would work with the Electronic Services Director and Webmaster in assisting in the handling email questions, upgrading listserv information, maintaining changes to the NARST web site (i.e., job announcements, conference information, and papers). This would allow the Electronic Services Director and Webmaster to concentrate on service upgrades, the addition of web-based forms and forums, and web site modifications to meet new ADA web site guidelines.

Currently the NARST Electronic Services annual budget is at $3000. We are requesting that it be raised by $1417 to accommodate the part-time student assistant. This leaves $2500 for software and hardware upgrade funds.

3. NARST NEWS:

NARST News Report
Helen Parke and Randy Yerrick

Agenda items for consideration

We have the following questions for the on-line versions of NN:

A. Should Randy have the editorial board preview prior to uploading on the web?
B. What is the process of transferring files to the web site?
C. Does the online version go on the web prior to delivery of the hard copy?

What is the process for printing and mailing NARST News?

Will the NARST Secretary be responsible for producing copies and mailing to membership?

Should Randy and Helen continue preparing NN until a time at which the Board decides to name a new editor?

Thank you, Helen and Randy

4. Plan for Publishing and Distributing Policy Statements/Advisory Memos

As directed by the Board, the Publications Advisory Committee discussed the creation of a plan for publishing and distributing policy statements/advisory memos. Only a few members of the Publications Advisory Committee participated in the discussion. Contact with Audrey Champagne, chair of the ad hoc committee on policy statements/advisory memos, did not result in much activity.

A suggested plan is proposed:

1) The ad hoc committee on policy statements/advisory memos decides what type of policy statements NARST will write (election issues or other issues).
2) An ad for the writing of policy statements is advertised on the NARST list-serv, and the ad hoc committee on policy statements/advisory memos asks experts to write research statements.
3) Statements are reviewed by the ad hoc committee on policy statements/advisory memos, publications advisory committee, and the NARST board.
4) The statements should not be a matter for vote of the membership.
5) The policy statements/advisory memos are published on the NARST web site, linked to other science education sites (e.g., NSTA), and distributed in print format (NARST News, flyers, etc.)

A separate concern: How will NARST's writing of statements interface with other group's policy statements?

5. Relationship Between JRST Editorial Board and Publications Advisory Committee:

Norm Lederman presented the attached proposal regarding the relationship between the JRST Editorial Board and the Publications Advisory Committee.

A few members of the Publications Advisory Committee discussed the proposal. Suggestions that were developed include:

1) JRST editors should be included and given voting rights; they should not serve simply ex-officio.
2) The make-up of the Publications Advisory Committee does not foster communication from the JRST Editorial Review Board to the Publication's Advisory Committee. There needs to be an appointed or elected member from the editorial review board to serve on the Publications Advisory Committee.
3) The Publication's Advisory Committee needs to report to the board and not be directly managed by the board.

One member suggested:
Determine what is desired between the Publication's Advisory Committee and the NARST Editorial Board that is of importance to what is not happening now.

Relationship Between JRST Editorial Board and Publications Advisory Committee:

As a consequence of extensive discussions in Boston, the Publications Advisory Committee was charged with proposing organizational changes related to the relationship between the JRST Editorial Board and the Committee. The initial discussion was precipitated by the concern, among several Board members, that the JRST Editorial Board did not appear to be participating in policy decisions. In short, is the Editorial Board actually just a Board of reviewers? The motion resulting from our committee discussions is attached and is presented to the Board for formal consideration.

Motion:

Proposed structure for the relationship between the JRST Editorial Board and the Publications Advisory Committee.

Publications Advisory Committee

Director/Coordinator of Publications, Chair
This will be a new Board position elected by the NARST membership.

NarstNews Editor(s)
Narst-Net Webmaster
Directors of Other "Major" NARST Publication Efforts (to be determined by the NARST President, with advisement from the Board)
JRST Editor(s) – Ex Officio
NSTA Director of Research

*Terms of committee membership will continue as long as individuals continue to function in the capacity that determined them to be on the committee. The Director is an exception to this rule. In order to create overlap of Committee Chairs, the Director will be appointed to the committee for a period of four years. During the first three years of his/her elected term on the Board, the Director of Publications will serve as Committee Chair with the assistance of the out-going Director. During the fourth year, he/she will serve as assistant to the newly elected Director.

Important Explanatory Notes:

1. The creation of a Director/Coordinator of Publications will constitute a new Board Position and will require a change in the by-laws. The remaining changes can probably be handled by changes in Policies and Operating Procedures. The reason for creating the new Board position is that our committee viewed the "Chair" of

publications assuming a much more active role in organizational policy and the coordination of ALL publication ventures of NARST.

2. Policy issues will be directly decided by the Publications Advisory Committee, which reports directly to the Board of Directors. It is recognized that certain policy issues will need to be voted upon by the Board.

3. JRST operations/procedures will be monitored by the Publications Advisory Committee and will decide what issues will need to be sent to the Board of Directors. This can help the Board avoid the tendency to micromanage the journal and its operations, but recognizes the Editor(s)' need for guidance on certain policy issues.

4. The JRST Editorial Board serves as advisory/support to the JRST Editor(s) and has direct (and unrestrained) input to the Publications Advisory Committee via the Chair of the Editorial Board (i.e., Director/Coordinator of Publications). This new structure should provide the Editorial Board with more input into policy decisions, as is currently specified in the by-laws.

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 Volume, 35 is selected. Each committee member will read 2-3 issues and assign points in various categories to each article (see criteria guideline) 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 lowest ranking from each issue will be 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 lowest 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 lowest rank is declared the outstanding article.

JRST AWARD COMMITTEE CONTINUED

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
April 15	Board Report to NARST President
April 16-19	Award presented at the NARST Annual Meeting

Documents and Sample Letters:

Dear ,

Welcome to the JRST Award Committee. As you know, our task is to find and identify the outstanding JRST research article for 20__. The authors are recognized at the 20__ 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 Volume, 35 is selected. Each committee member will read 2-3 issues and assign points in various categories to each article (see criteria guideline) 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 lowest 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 lowest 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 lowest 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, 20__. Those members assigned numbers 6, 7 and 8 will need to submit their assessments by October 30, 20__. Finally, those with numbers 9 and 10 will need to submit their assessments by January 19, 20__. 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.

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
April 15	Board Report to NARST President
April 16-19	Award presented at the NARST Annual Meeting

JRST AWARD COMMITTEE CONTINUED

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

	Points	Criterion
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 all the articles,
1 indicates the highest rank.

OVERALL COMMENTS:

RETURN TO:

Gail Jones
CB #3500
University of North Carolina at Chapel Hill
Chapel Hill, NC 227599-3500
FAX (919) 962-1533 E-mail: gjones@email.unc.edu

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.

NARST Outstanding Paper Award

Charge:

The Outstanding Paper Award Committee is responsible for identifying the outstanding paper presented at the previous year's annual meeting.

Procedure:

Selection of the NARST Outstanding Paper is conducted in three rounds.

In the FIRST ROUND each paper is rated by five (5) committee members. Each committee member rates up to 16 papers. Papers are carefully assigned to raters to avoid any obvious conflicts of interest even though author names and affiliations remained anonymous. The criteria for evaluation focused equally on significance, conceptual/theoretical background, research approach, conclusions, craftsmanship/communication, and creativity.

In the SECOND ROUND each of the papers rated in round one in the top five are rated by five (5) committee members, with each committee member reviewing up to 8 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 rated in the first, second, and third places.

Time Line and Due Dates:

October 10	First Round Reviews Completed
December 5	Second Round Reviews Completed
February 10	Recommendations forwarded to President
March 1	Winners notified

Documents and Sample Letters:

May 12, 1998

Dear Dr. :

Congratulations! Your paper _____ was nominated for the 1999 NARST Outstanding Paper Award. If you accept the nomination, NARST requires that you submit ten (10) copies of the paper for review. 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 ten (10) copies by July 17, 1998. Please note that the copies you submit should be identical to the paper you presented at the NARST 1998 Annual Meeting; otherwise, your paper will be disqualified.

I appreciate your interest in the NARST Outstanding Paper Award and look forward to receiving your copies and reading your paper. If you have any questions, please feel free to call me at (541) 737-1819 or send me an E-mail message at **lederman@ucs.orst.edu.** You can also contact my secretary, Rose Peltonen at (541) 737-1816 or E-mail her at **peltoner@ucs.orst.edu,** if you have questions regarding the review.

Sincerely,

Norman G. Lederman
Chairperson, NARST Award Committee

SUMMARY SCORE SHEET

Reviewer Name: _____

PAPER #	TOTAL SCORE	RANKING

NARST OUTSTANDING PAPER RATING SHEET

PAPER # _____

CRITERION	POSSIBLE POINTS	RATING
1. Significance of the Study: How important is the study to the science education community and/or the education community at large?	10	
2. 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	
3. Research Approach: Is the methology 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	
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?	10	
5. Craftsmanship/Communication: Does the paper demonstrate clarity, coherence, insightfulness, and incisiveness in communications? Does the paper advance a(n) central idea(s) or theme(s)?	10	
6. Creativity: Does the study break new ground? Does it involve risk-taking? Does it invite criticism?	10	
TOTALS	60	

ADDITIONAL COMMENTS:		

NARST OUTSTANDING DOCTORAL RESEARCH AWARD

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. Send the Call for Submissions for the Award to the NARST Newsletter and have it posted on the NARST webpage. (see example attached)
2. Send a letter of introduction and time line for the upcoming process to the committee. (At the NARST annual meeting decisions relating to the following year's procedures are discussed and agreed by the committee.)
3. Send reminder to NARST listserve.
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 winner and inform the President of NARST, who informs the winner. 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.

Time Line and Due Dates:

The dates in the time line are approximate, as actual dates will vary according to the dates for the NARST annual meeting.

Date	Event
April-May	Chair sends announcement to the NARST News and requests posting on NARST webpage
July-August	Chair posts Announcement on Listserve
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 via courier
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 to all candidates regarding status of abstracts
Nov 20	Deadline to receive unbound copy of dissertation from finalists
End Nov	Chair sends dissertations and covering letter to committee members via courier 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 winner and inform NARST President and Executive Secretary. President will contact winner, and then contact committee chair when this is done.
Mid Feb	After winner is notified by the NARST President, Chair sends letter to committee members notifying them of the winner 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.

Documents and Sample Letters Follow

Sample Call for Submissions for NARST Outstanding Doctoral Research Award

NARST OUTSTANDING DOCTORAL RESEARCH AWARD: INVITATION TO SUBMIT

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.

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]**.

Name, address and full contact details for Chair of Committee placed here.

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]

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:						

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

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

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**

CALL FOR APPLICATIONS

We seek quality applications for the 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.

The deadline for applications for the Outstanding Master's Thesis Award is October 1st.

Purpose/Goal

To promote a wide variety of research on science education and to encourage research at institutions that do not offer a doctoral degree.

Announcing the Award

Announce in NARST NEWS - summer issue NARST Net Consider other ways to promote the award

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, 2000 and sent to:
- The chair of the committee (name, address and e-mail).

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. If three or less applications are received, skip phone number.

Time Line and Due Dates 2000-01:

TBD	Announce in NARST NEWS
10/1/00	Applications due from candidates
11/22/00	Rating Sheets due from committee
1/8/01	Ten unbound copies of entire thesis due from candidate finalists
2/19/01	Final ranking due from committee
ASAP	Notify President, President-Elect, and Executive Secretary of winner

Documents and Sample Letters:

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 end of December. Finalists will be asked to submit 10 copies of their entire thesis.

Thank you again.

Sincerely,
Name of Chair

- Received thesis summary
- Application complete
- Committee Letter #1:

Name and address of applicant

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

- Thesis summary enclosed
- **Rating** procedure and instructions:

NARST OUTSTANDING MASTER'S RESEARCH EVALUATION CRITERIA
2000-01

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?

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

Please send rating sheets back by November 22nd to:
Name, address, e-mail and fax of Chair

Phase III: **Ranking Finalists**

Top three theses from the rating are considered for final selection. Don't do phase II if three or less thesis were submitted.

Applicant Letter #2:

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 for 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

- Congratulations - finalist
- Request ten unbound copies of entire thesis

OR

- Sorry, didn't qualify as finalist

Upon receiving candidate's thesis:

- Applicant Letter #3:
- 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

- Received entire thesis
- Approximate time line for decision

- 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, 2001. 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,

- **Rank** procedure and instructions (ranking each thesis 1st, 2nd, 3rd)
- Ranking Recording Sheet enclosed

RATER: _____

RANKING SHEET

Please rank the following theses 1st, 2nd and 3rd in the space provided.

INSERT RESEARCH TITLES 1-X

Please send your results back by February 19, 2000 to:

Name, address, fax and e-mail of Committee Chair

Phase IV: **Announcing Award Recipient**

- Applicant Letter #4:

Name and address of applicant

Dear _____:

I am pleased to inform you that your research *TITLE* has been awarded the National Association for Research in Science Teaching Outstanding Master's Thesis Award.

The award will be presented during the award's luncheon of the NARST Annual Meeting (day, date, time and location). I look forward to seeing you there. Congratulations!

Sincerely,
Name of chair

cc: To individual named by award recipient

Congratulations

Invitation to the NARST Annual Meeting
OR
Thanks for participation

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

Contact NARST President, President-Elect and Executive Secretary to have plaque made.

Committee Letter #3:

Name and address of receiver

Dear _____:

1st and Award recipient,
TITLE

2ndTITLE
3rdTITLE

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. Some issues we need to consider include:

- how to better promote the Award
- procedure if less than four applications are received
- what to do in case we feel none of the research is worthy of the Award
- thoughts and suggestions you have regarding the procedures.

Thank you for your participation, hard work, and effort. I look forward to seeing you at the Annual Meeting!\
Sincerely,

Correspondence record:

	Ratings Returned	Rankings Returned	Misc.				
Reviewers name							
Reviewers name							
Reviewers name							
Reviewers name							
Reviewers name							
Reviewers name							
Reviewers name							
Reviewers name							
Reviewers name							

Fall 2000 Report
Early Career Research Award Committee
Kathleen M. Fisher, Chair

I. Early Career Research Award Committee Members.

The Early Career Research Award Committee for 2000-2001 consists of:

3.	Wolf-Michael Roth	01
4.	Angelo Collins	01
5.	Valerie Akerson	02
6.	George Bodner	02
7.	Frank Crawley	03
8.	Kathy Frame	03
Ex-officio:	Sandra Abell	
	David Haury, Executive Secretary	

Valerie Akerson has resigned. Sandi Abell and I decided we would proceed with five committee members this year.

II. Call for Nominations

The Call for Nominations shown below was sent out on the NARST net on 8/9/00 and 9/19/00.:

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, 1995.

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.

Nomination materials should be sent to Kathleen M. Fisher at the address below no later than November 15, 2000.

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 kfisher@sciences.sdsu.edu and indicate whether you are on a Macintosh or IBM-type computer.

III. Rating Sheet

On the following page is the rating sheet with which we will rate proposals.

National Association for Research in Science Teaching
Early Career Research Award - 1999-2000
NOMINEE RECORD RATING SHEET

Nominee _____

Research Quality and Quantity

ATTRIBUTE	RATING				
	Low				High
Paper 1 Title: _____					
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
Paper 2 Title: _____					
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
Paper 3 Title: _____					
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
Perceptions/Paper Count					
Prestige of Journals where Nominee has Published	1	2	3	4	5
Influence of Nominee's Research on Field	1	2	3	4	5
Productivity (Number of Publications)	1	2	3	4	5
Letters					
Letter of Nomination	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

Total Numeric Rating _____
Comments (on back)
Overall Rank _____

IV. Procedures

Steps Involved in Chairing the Early Career Research Award

1. Spring NARST Annual Meeting. Obtain list of committee members and determine addresses including e-mail, fax, and phone.

2. Late Summer. Ask your committee to preview and comment on the Call for Nominations. It is important that they be aware of the deadline for submissions, that they will be receiving packages for review shortly after that, and that they agree with the Chair upon a deadline for return of their recommendations to the Chair. This year's Committee agreed to return ratings and recommendations by January 1.

3. Late Summer/Early Fall. Send the first Call for Nominations over the NARST net and to the NARST Newsletter Editor. The 2000 call was as follows:

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, 1995.

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.

Nomination materials should be sent to Kathleen M. Fisher at the address below no later than November 15, 2000.

---

4. Fall. Respond to inquiries from prospective nominators and applicants, usually sent by e-mail.

5. November, Submission Deadline. November 15 is a comfortable submission deadline, giving nominators time in the fall to prepare their packages and giving the committee time to review all candidates. This Chair has favored a "soft" rather than a "hard" deadline, but all papers are generally received within a week of the deadline.

6. November, Submission Review. The Chair reviews all packages for completeness and requests additional material where necessary.

7. November. When the packages are complete, they are organized with one copy of each package for each of the six reviewers and are mailed to them. An e-mail is also sent so that they will be expecting the package.

8. January. 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.

9. January. The Chair advises the Executive Secretary and the President of the designated recipient. This notification must be sufficiently informative for the Executive Secretary to prepare the Plaque. Include the candidate's name, institution, area of research, major contributions, and date and institution of Ph.D. award.

10. March/April. Prepare a report of the Committee work for the Spring NARST Board Meeting. An example of the 2000 report is attached.

11. 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 NARST Board meeting.

[attachment not included in draft]

Committee Progress Report for NARST Board Meeting
(Confidential--for discussion by board members only)

St. Louis, MO October 2000

2001 Distinguished Contributions to Science Education Through Research Award

Chair: Patricia E. Simmons
Committee members: Zoubeida Dagher, Vincent Lunetta, Carl Berger, Hanna Arzi, Bill Cobern, Anita Roychoudury

A. A call for nominations for the 2001 Distinguished Contributions to Science Education Through Research Award was solicited three times through the Narst listserve and in the April/May edition of the NARST-News. All nominees were nominated through the list serve call.

B. Eleven nominations were received (all nominations in response to calls over the list serve).

C. Each nominee is being contacted and asked if they wished to proceed with the nomination process (and to provide a short vita). The committee members will be provided with this information.

D. The short cv's for nominees will be distributed to the committee for review and a decision to proceed or not to proceed.

E. Pending the decision of the committee, the nominees will be placed in the pool for consideration for the 2001 Distinguished Contributions to Science Education Through Research Award.

F. I seek the NARST Executive Board's approval to solicit the full CV and letters of support from colleagues for the nominations.

Sincerely,

Patricia E. Simmons
Chair
Distinguished Contributions to Science Education Through Research Award

Nomination of Candidates for the Distinguished Contributions
to Science Education Through Research Award:

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.

Please email nominations to Patricia Simmons, Chair, Distinguished Contributions Committee, at psimmons@umsl.edu by September 15, 1999.

NARST Fall 2000 Meeting - Equity Committee Chair
Re: Motion on the Award Selection Processes of the National Association for Research in Science Teaching.

Whereas, the NARST Procedures and Schedules Manual (1999) have inconsistencies and omissions in the selection protocols of various award committees .

Whereas, none of the award committees directly address issues of equity in the way the committees are formed and/or in their selection protocols.

Whereas, the existing selection protocols are not commonly known to the membership at large.

Whereas, NARST is an organization dedicated to becoming more representative and attentive to equity issues inside and outside the science education community, and

Whereas, access to information, representation, fairness, and voice are the foundations of equity,

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.

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.

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, craftmanship/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.

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.

5. BIR that all Chairs sent 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.

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 members.

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.

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

9. BIR that all of these revisions must be put into effect in preparation for the selection of the 2002 NARST Awards.

10. BIR that each Chair of award committees submit their revised protocols in a timely fashion to the Equity Committee for feedback.

Fall 2000 Report
Membership Committee
Kathleen M. Fisher, Chair

I. Membership Committee Members, 2000-2001

(New Bylaws: Chairperson, 5 members (at least 1 International), Executive Secretary (ex-officio))
Chair: Kathleen Fisher 01
Members:

---

2. John Settlage 01
3. Peter Rubba 02
4. Bill Priestley 01
5. Joe Engemann 02
6. Laura Barden 03

Ex-officio: Sandra Abell
David Haury, Executive Secretary

II. Procedures

1. In mid-fall, contact all who signed up for last year's meeting (most did not actually show up this past year). Invite them to participate again this year, serving as a "seed" group for the newcomers, and use e-mail to form connections between Mentors and Mentees prior to the meeting.

2. When we receive new Mentor/Mentee volunteers about a month before the meeting, contact them by e-mail and arrange linkages. Do this at approximately weekly intervals so we can respond shortly after their registration forms arrive. Send each participant a list of all involved to date so they can see the scope of the get-together.

3. Work directly with the Executive Secretary and Program Chair to assure that we have an appropriate room with sufficient refreshments.

4. Develop an effective strategy for promoting connections among mentors and mentees at the meeting. This will likely include use of name tags, a large check-in sheet on the wall so individuals can ascertain whether or not the person they are looking for has arrived yet, and in addition, all committee members serving as facilitators, attending to "loners" and "stragglers".

5. Give a closing "speech" to thank everyone for coming and to encourage future interactions between mentors and mentees.

Election Committee

Charge:

The Election Committee conducts the election of Association officers.

Procedures:

Election committee meets at the Annual Meeting and begins the process of identifying possible candidates for President and the Board of Directors.

A Notice is placed in the NARST NEWS 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.

Election Committee members agree on a process to create an ordered list of 10 to 15 individual committee members who agree would serve NARST well as president. The Chair of the Election Committee contacts individuals so identified in order of priority to learn of their willingness to stand for election. When two individuals have agreed to stand for election, no further contacts are made.

Election Committee members agree on a process to create an ordered list of 15 to 20 individuals committee members who agree would serve NARST well as members of the Board of Directors. The Chair of the Election Committee contacts individuals so identified in order of priority to learn of their willingness to stand for election. When six individuals have agreed to stand for election, no further contacts are made.

The Election Committee Chair presents the slate of officers to the Board of Directors.

The slate proposed by the Election Committee is published in the *NARST NEWS* at least four (4) months prior to the Annual Meeting. **(NOTE – depends on dates of NARST to some extent)**

The Election Committee prepares mail ballots for the election of officers.

Ballots will be mailed by the Executive Secretary to all members eligible to vote two (2) months prior to the Annual Meeting.

To be counted, ballots must be in the hands of the chairperson of the Election Committee no later

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.

For consideration, petitions must be in the hands of the Executive Secretary three (3) months prior to the Annual Meeting

Time Line and Due Dates:

Summer	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.
15 August	Election Committee begins process of composing slate of officers.
Fall Board Meeting	Slate of Officers reviewed by Board of Directors.
4 November	Candidates for President and Board of Directors notified by e-mail and letter.

December	Statements by candidates for president and candidates for the Board of Directors published in NARST NEWS along with information contained in the Bylaws describing how nominees can be added to the slate of officers by the membership.
15 January	Ballots mailed by Executive Secretary to Voting Members.
15 February	Election Committee Chair informs President of successful candidates.
3 March	President informs successful candidates by phone or e-mail and a letter informing them of their duties including attendance at the first and second meetings of the Board of Directors at the Annual Meeting.

Documents and Sample Letters:

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: Approval to be on the slate for the Board of Directors

Name and address of candidate

Dear (Board of Directors Candidate):

At its Fall 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 for the Board of Directors, you have the opportunity to place a statement of about 250 words in NARST News that will help NARST members make informed choices in the election. NAME, the editor of the NARST News, should receive hard and disk copies of the text of your statement no later than 15 November.

In the event you are elected to the Board, you should know that newly elected Board members are encouraged to attend the meeting of the Board that takes place just before the Annual Meeting and begin their official duties at the Board meeting that begins at the end of the Annual Meeting. The Board also meets once in the Fall. As a member of the Board, you would chair one of the NARST Standing Committees. The outgoing chair of the Standing Committee briefs new chairs about the Committee☎s charge and procedures.

Thanks again for agreeing to stand for election.

Sincerely,
Name
Chair, Election Committee

Letter #3: 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 #4: Approval to be on the slate for President-elect

Name and address of applicant

Dear (Presidential Candidate):

At its Fall 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 NARST News that will help NARST members make informed choices in the election. NAME, editor of NARST News, should receive hard and disk copies of the text of your statement no later than 15 November.

Thanks again for agreeing to stand for election.

Sincerely,
Name
Chair, Election Committee

Report from NSTA representative to NARST
Maureen M. McMahon
Submitted: 9/12/00

Dear NARST Board Members:

It is with some excitement that I offer you this report regarding the National Science Teachers Association and possible opportunities for meaningful collaboration that may lie ahead. NSTA is currently undergoing a restructuring from within the organization. During the summer of 2000, NSTA convened the First National Congress of Science Educators designed to more effectively bring the voice of local science educators to national attention. The Congress is composed of leadership from NSTA's state chapters and associated groups. In addition NSTA has organized a Council to which the Congress will report. The Council, an advisory body to the NSTA Board of Directors, consists of the 18 NSTA elected District Directors and Affiliate Presidents. NARST is an affiliate and as such the NARST president is a member of the NSTA council. It is hoped that this streamlining of structure will organize and amplify the voice of science education

Both Sandy Abell and I attended the NSTA "First National Congress of Science Educators" meeting this past summer in Williamsburg, Virginia. Although, neither doing research in science education nor bringing research to the science teacher was a major priority at this conference, there were a few priority focal areas where research could play a major role. After much thought, it may be these "by-default" opportunities where some strong collaborative work between NARST and NSTA could begin.

I. NSTA's major focus in the near future is professional development for inservice teachers. As many of the fifty states move to require additional hours of professional development for their inservice tenured teachers, NSTA feels this is an opportunity for the association to answer the states' needs by offering NSTA designed or approved professional development academies where teachers could earn additional hours while receiving quality science education instruction. These academies, for example, may begin with a 6-hour workshop at a NSTA regional or national conference, continue with on-line interactive communication between participants for several months and culminate with another on-site workshop at a NSTA conference the following year. As NSTA argues strongly on Capitol Hill for the Eisenhower-type funding or similar funding to continue they need this new extended type of professional development activity to be visible. The legislators are currently not looking favorably on using federal funding to send teachers to a conference, which is viewed as a short one-shot professional development experience. Where does or can research fit into this professional development academy thrust of NSTA?

Initially, NSTA would be helped if there were research teams linked to these academies to conduct sound educational research. These researchers could serve as necessary evaluators as well as individual researchers furthering their own research agendas. Subsequent to the professional development in these academies, NSTA would want to share evaluations and findings through the NSTA press as well as other venues.

Research avenues would be opened through NSTA doors of need and research would reach the teachers and legislators as NSTA publishes academy results and stories.

It appears as if the time might be right to approach this as a win-win opportunity for NSTA and NARST to join forces. Research doors of opportunity would be opened and pathways for getting more research to science teachers could be paved. The vehicles for marrying appropriate researchers or research teams with the academies and their teacher participants could be the NSTA website, NARST website, NARST News and NSTA publications. A pseudo-call for proposals could be posted and a joint NSTA-NARST committee could award the research opportunity through an agreed upon procedure. Certainly, there would be opportunities on both NSTA and NARST convention programs for the teachers, teacher-researchers and researchers to share their findings following the academy professional development process.

I think it would be wise if we were able to take a small amount of time at the Fall NARST board meeting to discuss this idea. I would need feedback in order to proceed negotiating with NSTA.

II. Another area of priority focus for NSTA is publishing. They have recently brought a new publishing director on board named David Beacom. According to David, NSTA is very interested in hearing about new ideas for publications. He commented that Bill Holliday and Norm Lederman's work on a new NSTA-published book whose focus includes science education research and the practicalities of research for the science teacher is still under consideration. I think a letter of support from the NARST Board addressed to David Beacom in support of this work would be appropriate and timely.

Respectfully submitted,

Maureen McMahon
California State University, Long Beach
Department of Science Education, Chair
mmcmahon@csulb.edu

AAAS Section X report

To NARST

From: Marcia C. Linn

RE: AAAS liaison

The AAAS has changed the process for annual meeting program submission and review. Rather than primary review at the level of section, most of the decisions are made by the program committee. Prospective submitters of sessions can get feedback on ideas at the section meeting. The next AAAS meeting is in February [the usual president's weekend] in Seattle.

AAAS has issued textbook reports over the past 18 months that have garnered considerable press coverage--they are available from Project 2061.

The SCIENCE magazine web site has many exciting features that will interest NARST members.

NARST might consider becoming an affiliate of AAAS if it is not already part of that group.

AAAS Affiliates Meeting
Friday, February 18, 2000
10:00 AM
Diplomat Room
Omni Hotel
Washington, DC

Report submitted to the NARST Board by:
James P. Barufaldi (for Kate Scantlebury)

The agenda included the following items:

Welcome by Stephan Jay Gould, AAAS President
Update on Court Appointed Experts Project (Mark Frankel, AAAS Science and Policy Programs)
Update on Actions Relating to OMB Circular A-110 (Mark Frankel)
Scientific Society Responses to the Evolution Controversy (Mark Frankel, Audrey Champagne, Lynn Elfner, R.M. West)
Report of Recent Science and Human Rights Activities (Audrey Champagne)
Adjournment (12:00 Noon)

Much discussion focused on the AAAS Project on Court Appointed Scientific Experts. This public service driven model focuses on what science experts should be doing in the courts. The Project was established to assist judges with court appointed experts with strategies such as the following;

- provide the courts with Internet and data base searches of relevant information,
- assist with recruitment of science experts,
- assist with selection of members on screening panels,
- establish a subcommittee to inform courts about issues, and,
- develop guidelines dealing with problems of conflict of interests.

Mr. Frankel provided information about the Freedom of Information Act and problems of releasing information to the public about research findings The mechanism of informing the public about findings and the notion that the "public has the right" to information were discussed. A dialogue continued which questioned the mechanism used to share scientific findings with the public.

Ms. Chapman announced recent AAAS Human Rights Activities such as the documentation of human rights violations, the advanced uses of scientific methods and skills to document violations, the development of scientific methods to monitor the implementation of human rights, the promotion of greater understanding, and support for human rights, and the implementation of a series of research projects

AAAS initiatives were announced such as the AAAS wesite which now includes an "evolution site". The site describes additional resources, conferences, dialogues, and an eight part video series including dialogues with religious leaders, scientists, and others engaged in the controversy, which continues to surround evolution.

Meeting adjourned by Dr. Gould, 12:00 Noon

James P. Barufaldi, Chair
AAAS, Section Q

August 2000

ICASE member organisations

Dear Colleague,

It is my pleasure to inform you that the next ICASE General Assembly will be held on February 19th 2001 in Goa, India the day before the start of the International Conference on Science Education. The exact location will be notified later.

All member organisations are invited to send a representative, but please note that the constitution allows for only paid up full members to vote on matters other than finances. A quorum will consist of one half of the full membership, although member organisations are permitted to vote by proxy and the proxy can be counted in the quorum. However, each organisation must notify the secretary before the General Assembly who they wish to act on their behalf.

May I also ask you to notify your organisations that a motion to change the constitution is to be put forward at the General Assembly. This motion is to change section 7.1.7 of the constitution to allow for a more gradual changeover of Executive committee members so that elected officers
serve from 6 months after the General Assembly until six months after the next General Assembly. Specifically the change in constitution is as follows:

To change section 7.1.7 to read "The period of office for members of the Executive Committee shall be the period from six months after a General Assembly until six months after the next General Assembly, except for

a) the position of President Elect, where the person will take office eighteen months after the General Assembly at which he/she is elected

and

b) the position of Immediate Past President, where the person will complete their term of office eighteen months after the General Assembly at which a new President Elect is elected".

CASTME-UNESCO-HBCSE International Conference on Science, Technology and
Mathematics Education for Human Development
February 20-23, 2002 in Goa, India.

All ICASE member organisations are invited to make submissions to this conference, either as individual members of the organisations or on behalf of the organisations as a whole. Information is given below.

Name
Organisation
Address

Tel/Fax/E-mail

I wish to (please select)

Present a paper entitled

Conduct a workshop for ___ participants on the topic

Display a poster on

Exhibit materials on

Conference Secretariat

Homi Bhabha Centre for Science Education
Tata Institute of Fundamental Research
V.N.Purav Marg, Mankhurd
Mumbai, MAH 400 088, India
Tel +91 22 556 7711, Fax + 91 22 556 6803
E-mail icstme@hbcse.tifr.res.in

Yours sincerely,

Jack Holbrook
Secretary, ICASE
(E-mail icase@logos.cy.net)

Report
October '00

Ad Hoc Committee on Environmental Science Education

Prepared by:
Dr. Michaela Zint, University of Michigan

The Ad Hoc Committee on Environmental Science Education (ESE) came into being and first met at the 2000 NARST Annual Meeting in New Orleans. Sixteen participants attended this meeting.

During this first meeting, it was decided that our initial activities will consist of creating a list serv for all NARST members interested in ESE and that we will solicit proposals for an ESE symposium at the next 2001 conference.

Immediately after the meeting, Michaela Zint (University of Michigan) created the list serv NARST-EE@umich.edu and currently manages its 40 subscribers.

Subsequently, Yvonne Meichtry (Northern Kentucky University) led a discussion via NARST-EE to develop a call for proposals for an ESE symposium at the next 2001 conference. Once developed, this call was disseminated via the NARST-EE@umich.edu list serv as well as two other environmental education faculty list servs.

Twenty-seven proposals were submitted as a response to our call, including from faculty members who are currently not NARST members. Based on the topics of these 27 proposals, Meichtry and Zint selected ten proposals for inclusion in two symposia (submitted to the closest matching strands). The two symposia are:

Meichtry, Y. and M. Zint. 2000. Relations between science education and environmental (science) education.

Zint, M. and Y. Meichtry. 2000. Connections between science education and environmental (science) education standards.

The authors of the remaining 17 abstracts were advised that they should submit their proposals to relevant NARST Strands and to indicate that they had the support of our committee.

We are awaiting the results of the reviews of our two proposed symposia and the 17 additional abstracts before taking any further action as a committee.

Please direct any questions, comments, or concerns to the author of this report:
Michaela Zint, zintmich@umich.edu, Ph (734) 763-6961.

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

September 17, 2000

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. The committee met two times physically, during the 1999 meeting and the 2000 meeting, discussing possible strategies for accomplishing this goal. A major task was to survey NARST members about their perceptions of the NARST organization's positioning relative to out-of-school, informal science learning and their interest in the NARST organization increasing their profile in this research area. This report summarizes the findings of the survey, discusses its implications and recommends a strategic initiative in the area of Informal Science Education to the Board.

Findings

NARST members were surveyed utilizing two methodologies. A survey instrument (Appendix A) was posted twice on the NARST list serve, just prior to the 2000 annual meeting and right afterwards. In addition, face-to-face interviews were conducted with a sub-sample of members at the annual meeting, by ad hoc committee members utilizing the same survey instrument. There was an effort to select a representative sample of NARST members (N=50). Given the small sample size it is important to think of these results as "indicative," rather than definitive.

Two-thirds of the sample were not Strand 9 members (Informal Learning) nor typically participate in Strand 9 activities. Other strands that the sample mentioned participating in included Strand 1 (Learning: Students' Conceptions and Conceptual Change), Strand 2 (Learning: Classroom Contexts and Learner Characteristics), Strand 3 (Teaching), Strand 4 (Teacher Education), Strand 5 (Curriculum, Evaluation and Assessment), Strand 6 (Cultural, Social and Gender Issues), Strand 7 (Educational Technology), and Strand 10 (College Science Teaching), with Strands 1, 4, 6 and 7 being mentioned most frequently. Interestingly, a third of the sample indicated that they either do not attend to strands, preferring to go to papers of interest across strands, or were unsure of what strands were. The vast majority of the sample was composed of university professors (72%), although it also included museum professionals (22%) and some graduate students (6%).

Eighty-two percent of the sample felt that the NARST organization could benefit from focusing in the area of Informal Science Learning research. Nine percent indicated that it might be a good thing to do and another nine percent felt that NARST should not do so.

Those encouraging the NARST organization to focus in this area, felt that as an organization it has much to offer: an international reputation, a highly respected journal, an existing organizational structure and some interest already by virtue of publishing periodic research articles in the Journal of Research in Science Teaching and establishing an Informal Science Strand. Several respondents also discussed the importance and benefits of being a member of a research community, particularly one as well respected as the NARST organization ("Informal science learning research could benefit from a 'scholarly' forum in which to discuss theory and findings in the field.").

These respondents also felt that there was much the NARST organization could gain by focusing or highlighting this area in some way. Primarily there was the feeling that this focus would help the NARST organization better fulfill its mission by supporting learning research for children and adults in all settings, recognizing that important learning takes place outside of school settings and across the lifespan.[1] One person stated it well: "We really do not have sufficient information about science understanding among the general population." Several people also mentioned that focusing in this area would allow NARST to have "real-world" relevance. Related to real-world relevance, a few respondents also shared the real-world realities of being academics and feeling that sometimes this area of research is marginalized:

> "For me, it relates to opportunities for publications that will support my efforts towards tenure and promotion. This is important to me since this area is related to my research agenda." [Assistant Professor in Technology Education]
>
> "NARST has certainly published articles on out-of-school learning through the years but they are not that numerous. If the boundaries are truly disappearing, then the number of presentations at the annual meeting and the frequency of articles in the journal should both increase." [Recently completed Ph.D. museum professional, working at a university museum]

There were also a few people who suggested that "learning is learning wherever and with whomever it occurs." There was also the feeling that opening up a dialogue between informal and formal researchers could only be beneficial to both—that the two areas have much to share with one another.

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[1] An early task of the ad hoc committee was to look carefully at the mission statement of the organization. Nothing in the language of the current mission statement suggests that research in science learning should only be focused in schools and universities. There is a real opportunity for the NARST organization to take a leadership role in breaking down some of the traditional boundaries and roles that have distinguished various groups of science learning. In the 21st Century, non-school players such as museums, the Internet, and print and broadcast media will assume an ever more important role in providing the public with science learning opportunities.

A few respondents involved in teacher education specifically suggested how important it is for schoolteachers to be better informed about learning in informal learning settings in order to build upon the experiences children bring with them to the classroom and to encourage students to extend the learning experiences they have in school outside school. A few people also mentioned home schooling as a rapidly growing phenomenon, worthy of investigation, which most likely would fit into the research activities of informal science researchers. One person emphasized that "science literacy for all" needs to encompass "all of an individual's life." Another person, heavily invested in informal, suggested that the goal of "formal" education should be to prepare children for "informal" experiences throughout their lifetime. Such a focus would reflect changing and expanding views of the ways and contexts in which people learn science in their lives.[2] In fact, the weakness that some respondents felt that the NARST organization brings to the issue is an emphasis on schools and universities as places where important learning takes place, to the exclusion of other settings and modalities. A few people used terms like "entrenched attitudes," "rigid perspectives" and "resistance" to describe this perceived mindset.

There was also the sense from a few respondents that informal learning is all about inquiry and constructivist learning in its most pure form so it can serve as a model for more formal, structured learning (as one person quipped: "It is the best kept secret of the informal learning community"). Another person suggested that informal science settings provide a friendly meeting place for all stakeholders in science literacy—children, parents, teachers, scientists and community members. The current national reform (literacy for all) requires such meetings—opportunities to forge a shared vision. Changing teacher education alone is a one-step-forward, two-steps backward process!"

Several respondents also appreciated that increased attention to the role that technology plays in learning is one of those areas in which there is great overlap between formal and informal learning research (one person suggested especially with the current focus on Internet-facilitated distributed learning). Interestingly, there were several people attending the jointly sponsored AERA/NARST pre-conference workshop at the 2000 meeting who were formal researchers but were intrigued by the workshop's focus on technology.

Another interesting, but not entirely anticipated finding was the potential NARST members saw for focus in this area expanding and energizing NARST membership. Although the data set is small, respondents felt focusing in this area might reach a largely untapped pool of prospective NARST members, particularly if this area is broadly defined to include researchers investigating learning in museums, science centers, outdoor settings, homes and from the Internet and print and broadcast media. Data regarding membership in Strand 9 would suggest that members of this strand tend to include newer members of NARST (members for less than five years) and

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[2] For these very reasons a number of people in the informal science field are embracing an alternative term, free-choice learning. Rather than focusing on where the learning takes place, this term refers to the unique characteristics of such learning: non-sequential, self-paced and often voluntary (Informal Learning Environments Newsletter, May/June, 1998; Daedalus, 1999; Teachers College Press, in press). The term can be used to describe not only the learning that occurs in a museum, science center or botanical garden but at home, when surfing the Internet or when reading a science-related book or magazine.

many students with the potential of remaining long-term members if additional focus was placed in this area.

Despite this interest, it is important to note that nine percent of the sample did have ambiguous feelings about whether a focus in this area would be a good thing to do and another nine percent felt that NARST should not focus in this area at all. Most of the reasons for not supporting this focus centered on concerns about fragmentation and about the fact that establishing Strand 9 was an indication of support in this area already. One person felt that the NARST organization should not become proactive (or active in any sense) in any area, however, that individual NARST members could: "I'm not sure that NARST should be promoting any particular 'cause.' To do so inevitably would mean that other 'causes' might get less emphasis or attention." However, this person did feel that the NARST organization has a responsibility to facilitate sectional interests, as long as they are consistent with the NARST organization's mission. Another person felt that learning should be the focus. Taking that perspective, research on informal learning may inform research on more formal learning and visa versa.

Recommendations

Based on this survey and other research conducted by the ad hoc committee, 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) Identify, describe and assess the variety of out-of-school learning environments (i.e., family, community, museums, etc.);

3) Play an advocacy role by bringing to the educational community's (teachers, administrators, politicians and researchers) attention the place and value of these settings;

4) Encourage the search for methodologies that are appropriate to this area of research and support their refinement and validation;

5) Continue to support collaborative sessions such as the successful jointly sponsored AERA/NARST pre-conference workshop at the 2000 meeting (The session was well-attended, with almost 50% of those attending being students, suggesting that this area of focus could be a potential area in which NARST membership could grow. A jointly sponsored session with NSTA is planned for the 2001 meeting);

6) Support and encourage collaborative research, with informal science researchers being natural research partners with others in NARST doing more formal research, for example, encouraging research that explores the intersections between the Technology and Informal Science might be beneficial.

7) initiate the creation of a web-based discussion site and special site for information regarding research on learning in informal settings;

Implications and Conclusions

Although more indicative than definitive, the findings from this survey do suggest that there is interest among many NARST members, both Strand 9 members and others, to explore a higher profile for research in the area of informal (free-choice) science learning research. Clearly there is a trend in this direction 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 exploring the future publication of a paper set devoted to the topic in the Journal for Research in Science Teaching. However, the question seems to be, could the NARST organization be doing more to support scholarship in this area and, if so, what? 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 informal learning. 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.

Another interesting, but unanticipated finding, was the potential NARST members saw for focus in this area serving as a mechanism for expanding and energizing current NARST membership. Although the data set is small, there was a feeling that focus in this area might reach a largely untapped pool of prospective NARST members, particularly if research in this area is broadly defined to include researchers investigating learning in museums, science centers, outdoor settings, homes and the Internet and print and broadcast media. Data regarding membership in Strand 9 does support the tact that members of this strand tend to include newer members of NARST. This is probably worth tracking more systematically.

The efforts of the ad hoc committee also revealed other unanticipated, but interesting outcomes. One such finding was the fact that a third of the sample indicated that they either do not attend to strands at all, preferring to go to papers of interest across strands, or were unsure of what strands were. Although this may have related to their inexperience with NARST, with almost half of the sample only having been members for five years or less and another third for only 6-10 years, there also seemed to be some general dissatisfaction with strands which may be worth exploring in more depth.

Another unanticipated implication stemming from the ad hoc committee's study of this issue over the last year and a half was the seeming desire on the part of many NARST members for the NARST organization to explore new ways of meeting member's needs. There seemed to be interest in more collaborative research and exchange between strands, more forums offering opportunities for scholarly exchange among a diversity of researchers and a larger role for the NARST organization in advocating and supporting innovative approaches to research and policy issues.

In conclusion, we feel that 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 out-of-school learning plays in the lives of both children and adults. By promoting a broader definition and framework for this type of learning and efforts to investigate its relationship to learning in schools, NARST has an opportunity to shape a larger vision for the 21st Century Learner that includes informal (free-choice) learning. The ad hoc committee is ready and willing to continue to assist in this effort in any way that would be useful.

APPENDIX A

SURVEY/INTERVIEW INSTRUMENT

The Ad Hoc Committee on Informal Science Learning invites you to take a few moments to share your thoughts with us

As our society becomes increasingly a Learning Society, the traditional boundaries and roles that have distinguished various groups of science learning providers are disappearing. In the 21st Century, non-school players such as museums, the Internet, print and broadcast media will assume an ever more important role in informing people, both children and adults, about science.

NARST has a potential opportunity to take a leadership role by supporting research in this area of out-of-school learning. Last spring an ad hoc committee focused on Informal Science Learning was established with the goal of exploring the NARST organization's potential roles in this area. We are using the annual meeting as an opportunity to conduct face-to-face interviews with some members, exploring their perceptions of the NARST' organization's positioning relative to out-of-school, informal science learning. Even if this is not an area of interest or focus for you we would like your thoughts. We have also posted this questionnaire on the list serve so if you do not have time to talk now we'd appreciate your thoughts on this matter when you return home (Send responses to dierking@ilinet.org). Thank you for your time.

1) What particular strengths does the NARST organization bring to the area of out-of-school learning?

2) What weaknesses does the NARST organization bring to the area of out-of-school learning?

3) What opportunities or benefits would you as a NARST member enjoy if the organization actively sought to became more proactive/visible/vocal in this area of research?

4) What problems might the NARST organization face if it actively sought to become more active in this area of research?

5) a) As a NARST member, do you think this is an area in which the NARST organization could/should focus? Please elaborate.

b) If you feel the NARST organization should focus in this area, as a NARST member what would you recommend as a focus?

6) Currently there is a strand focused on informal science learning, Strand 9. Are you aware of this strand? Do you feel that it is successful? Please elaborate.

7) What additional suggestions/comments would you like to share with the committee for discussion?

7) Some background questions: a) How long have you been a science educator/teacher/other in the science education field?

b) What kind of an institution do you work in?

b) How long have you been a member of NARST?

c) What strands do you currently participate in?

d) If you are a teacher, do you use informal institutions for science learning experiences with your students? If so, at which levels? (K-12; teacher education, science at university/college level; other)? If you are not a teacher, do you use these institutions for any other aspect of your work?

Committee members: Lynn Dierking, Institute for Learning Innovation (Co-Chair); John Falk, Institute for Learning Innovation (Co-Chair); David Anderson, Queensland University of Technology, Kirsten Ellenbogen, King's College London; Eric Pyle, Western Virginia University; Léonie Rennie, Curtin University of Technology and Patricia Simmons, University of Missouri at St. Louis)

NATIONAL ASSOCIATION for RESEARCH in SCIENCE TEACHING

STANDING COMMITTEES – 2000-2003

Policy Advisory Committee
(New Bylaws: Chairperson--Immediate Past-President, 6 members)
Chair: **David Treagust**
Members
1. Mary Atwater 00
2. Claudia Khourey-Bowers 00

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3. Cheryl Mason 01
4. John Staver 02
5. Kathleen Hogan 02
6. **Catherine Wilcoxson 01**
7. **Jeff Bloom 03**
8. **William Sumrall 03**

Ex-officio: **Sandra Abell**

Financial Advisory Committee
(New Bylaws: Chairperson, 5 members, Executive Secretary (ex-officio))
Chair: Diane Ebert-May
Members:
1. Steve Oliver 00

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2. Paul Kuerbis 01
3. Phil Adey 02
4. **Bonnie Brunkhorst 02**
5. **Robert Keefer 03**
6. **Mark Windschitl 03**

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Publications Advisory Committee
(New Bylaws: Chairperson, 3 members, JRST Editor, NARST NEWS Editor, NARST Director of Electronic Services, NSTA Director of Research (ex-officio), Directors of other major NARST publication efforts)
Chair: **Charlene Czerniak** 03
Members:
1. Jane Butler-Kahle 00

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2. Larry Enochs 01
3. Julie Luft 02
4. **Roger Johnson** **03**
5. Jim Gallagher JRST Editor
6. Andy Anderson JRST Editor
7. Helen Parke NARST NEWS Editor
8. Randy Yerrick NARST NEWS Editor
9. Beth Klein Director of Electronic Services
10. (none currently) Editors of any other NARST publications

Ex-officio: **Sandra Abell**
NSTA Director of Research

Program Committee

(New Bylaws: Chairperson (President-Elect), 2 Board Members, NARST Research Coordinator (ex-officio), Annual Meeting Coordinator, Executive Secretary, 1 member selected by President-Elect & approved by Board)

Chair: **Norm Lederman** **01**

Members:

1. **Charlene Czerniak** **01**
2. **Patricia Simmons** **01**
3. Kim Nichols (Annual Meeting Coordinator)
4. **Susan Westbrook** **01**
5. Arthur L. White (Executive Secretary)

Ex-officio: **Sandra Abell**
Nancy Songer (Research Coordinator)

Research Committee

(New Bylaws: Chairperson (Research Coordinator), 6 members, NSTA Director of Research)

Chair: Nancy Songer 01

Members:

1. Diane Bunce 00

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2. David Kumar 01
3. John Wallace 02
4. (NSTA Director of Research)
5. **Pradeep Dass** **01**
6. **Steven Rogg** **02**
7. **Jan VanDriel** **03**
8. **Joan Whitworth** **03**

Ex-officio: **Sandra Abell**

Election Committee
(New Bylaws: Chairperson (Immediate Past-President), 4 members (1-year terms), Executive Secretary (ex-officio))
Chair: **David Treagust** **01**
Members:
1. Jim Minstrell **01**
2. John Penick **01**
3. Zoubeida Dagher **01**
4. Jeffrey Weld **01**
Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

International Committee
(New Bylaws: Chairperson, 9 members (2/3 from outside USA), Executive Secretary (ex-officio))
Chair: **Sharon Lynch** **03**
Members:
1. Emmett Wright 00
2. Isabel P Martins 00
3. Dorit Maor 00
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4. Judy Dori 01
5. Avi Hofstein 01
6. Martina Nieswandt 01
7 Pamela Abder-Fraser 02
8. Chin-Yen Chang 02
9. Wolfgang Graeber 02
10. Yoshisuke Kumano **03**
11. Brian Murfin **03**
12. Deborah Pomeroy **03**
Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

JRST Award Committee
(New Bylaws: Chairperson, 21 members, Executive Secretary (ex-officio))
Chair: Gail Jones 01
Members:
1. Gail Richmond 00
2. Brian Alters 00
3. Justin Dillon 00
4. Allan Feldman 00
5. Renee Fountain 00
6. Helmut Fischler 00
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7. Jon Singer 01
8. Barbara Crawford 01
9. Brian Hand 01
10. Glenda Carter 01
11. Betsy Davis 01
12. Eva Toth 01
13. Andrew T. Lumpe 01
14. Allan Harrison 01
15. Julie Bianchini 02
16. Juanita Jo Matkins 02
17. Eugene Chiapetta 02
18. Joel Mintzes 02
19. Theresa Greenfield 02
20. Bradford F Lewis 02
21. Sherry Southerland 02
22. Danielle Ford 03
23. Roselyn Hammond 03
24. William Newman 03
25. Deb Smith 03
26. Gerry Madrazo 03
27. Anat Zohar 03

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

NARST Outstanding Paper Award Committee
(New Bylaws: Chairperson, 21 members, Executive Secretary (ex-officio))
Chair: Kate Scantlebury 02
Members:
1. Mark Guy 00
2. Patricia D. Morrell 00
3. David Radford 00
4. Marcy Hamby Towns 00
5. Gregory Kelly 00
6. Karen K. Lind 00
7. Derrick Lavoie 00
8. Susan L. Westbrook 00

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9. Doug Hoffmann 01
10. Phil Bell 01
11. Carla Zembal-Saul 01
12. Randy McGinnis 01
13. Jodi Haney 01
14. Tony Petrosino 01
15. Bill Boone 02
16. Karen Dawkins 02

17. Dana Zeidler 02
18. Janell Wilson 02
19. Bill McComas 02
20. Sue Stocklmayer 02
21. David Zandvleit 02
22. Dennis Wissing 01
23. Mustafa Cakir 03
24. Robin Freedman 03
25. Brian Foley 03
26. Kim Hyonam 03
27. Jim McDonald 03
28. Nancy Roberts 03
29. Janice Wilson 03

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Distinguished Contribution through Research Award Committee
(New Bylaws: Chairperson, 6 members, Executive Secretary (ex-officio))
Chair: Patricia Simmons 01
Members:
1. Zoubeida Dagher 00
2. Vince Lunetta 00

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3. Nancy Brickhouse 01
4. Gerald Abegg 01
5. Hanna Arzi 02
6. Carl Berger 02
7. William Cobern 03
8. Anita Roychoudhury 03

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Early Career Research Award Committee
(New Bylaws: Chairperson, 6 members, Executive Secretary (ex-officio))
Chair: Kathleen Fisher 01
Members:
1. Ann Howe 00
2. Carol Mitchener 00

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3. Wolf-Michael Roth 01
4. Angelo Collins 01
5. Valerie Akerson 02
6. George Bodner 02
7. Frank Crawley 03

8. **Kathy Frame** **03**

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Outstanding Doctoral Dissertation Award Committee

(New Bylaws: Chairperson, 9 members, Executive Secretary (ex-officio))

Chair: Leonie Rennie 02

Members:

1. Darrell Fisher 00
2. Michelle McGinn 00
3. Reuven Lazarowitz 00

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4. Deborah Tippins 01
5. Dale Baker 01
6. David Jackson 01
7. Herb Brunkhorst 02
8. Cam McRobbie 02
9. Diana Rice 02
10. **Andrea McLoughlin** **03**
11. **Ryda Rose** **03**
12. **Deb Tomanek** **03**

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Outstanding Master's Research Award Committee

(New Bylaws: Chairperson, 9 members, Executive Secretary (ex-officio))

Chair: Diane Ebert-May 02

Members:

1. Mark Templin 00
2 Bruce Waldrip 00
3. Jenice (Dee) Goldstein 00

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4. David Pushkin 01
5. Ann Cavallo 01
6. Marcia Fetters 01
7. Michael Beeth 02
8. Bob Evans 02
9. Jennifer Helms 02
10. **Christopher Anderson** **03**
11. **Saouma Boujaoude** **03**
12. **Anuradha Dujari** **03**

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Membership Committee
(New Bylaws: Chairperson, 5 members (at least 1 International), Executive Secretary (ex-officio))
Chair: Kathleen Fisher 01
Members:
1. Holly Priestley 00

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2. John Settlage 01
3. Peter Rubba 02
4. **Bill Priestley** **01**
5. **Joe Engemann** **02**
6. **Laura Barden** **03**

Ex-officio: **Sandra Abell**
Arthur L. White, Executive Secretary

Equity Committee
(New Bylaws: Chairperson, 9 members)
Chair: **Alberto Rodriguez** **03**
Members:
1. Penny Gilmer 00
2. Okhee Lee 00
3. Alberto Rodriguez 00

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4. Sharon Haggerty 01
5. Leslie Jones 01
6. Julia Clark 01
7. Kathleen Davis 02
8. Hedy Moscovici 02
9. Mark Volkmann 02
10. **Malcolm Butler** **03**
11. **Will Letts** **03**
12. **Rena Faye Norby** **03**

Ex-officio: **Sandra Abell**

Bylaws
of the
National Association for Research in Science Teaching

January 2000

Article I: Name

Section 1:

This organization is the National Association for Research in Science Teaching, hereinafter referred to as the Association or the NARST.

Article II: Purpose

Section 1:

The purpose of the Association is to promote research in science education and to disseminate the findings of this research to improve science teaching.

The Association publishes journals, articles, reviews and/or reports of research that are in harmony with the purposes of the Association.

Article III: Membership

Section 1: Members

The Association consists of members who are working to improve science education through research.

Section 2: 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.

Section 3: Dues

The Board of Directors sets the dues and contribution amounts for all classes of membership.

The Executive Secretary is responsible for informing members of the amount of the Association's dues and the payment date.

If the dues of a member remain unpaid beyond six months after the dues notice, the Executive Secretary shall remove the member's name from the membership list.

Former members of the Association may be reinstated without prejudice upon payment of current year's dues.

Article IV: Officers and Responsibilities

Section 1: Officers

The elected officers of the Association are the President, President-Elect, Immediate Past President, the Research Coordinator, and Directors-at-Large. An appointed officer of the Association is the Executive Secretary.

Section 2: Responsibilities

The President is chairperson of the Board of Directors, has general charge of the affairs of the Association, presides at all business meetings, and is an ex-officio member of all committees.

The President-Elect presides at all business meetings in the absence of the President, has charge of the Annual Meeting, chairs the Program Committee for the Annual Meeting, and is an ex-officio member of the Policy Advisory Committee.

The Immediate Past-President chairs the Policy Advisory Committee and the Election Committee.

The Research Coordinator chairs the Research Committee, organizes and supervises the research activities of the Association, subject to review by the Board of Directors, and makes a report to the Association at the Annual Business Meeting.

Members of the Board of Directors chair the Association's Standing Committees.

The Executive Secretary serves as the recording, correspondence and financial agent of the Association.

Section 3: Eligibility and Terms of Office

Only members are eligible to hold office.

No person can serve more than one term in the same office.

Candidates for office of President-Elect must have previously served on the Board of Directors and remain active members of the Association.

Terms of officers will begin at the close of the Annual Meeting and continue until the close of the Annual Meeting of the year the term ends.

The term of office for the President-Elect, President, and Immediate Past-President is one year.

The term of office for the Research Coordinator is three years.

The term of office for Directors-at-Large is three years.

The term of office for the Executive Secretary is 5 years.

Section 4: Election of Officers

At the Annual Meeting, the President appoints an Election Committee of five members.

The Election Committee proposes a slate of two or more nominees for each vacant office.

Additional nominations may be made by providing a petition with the signatures of ten (10) members to the Executive Secretary.

Section 5: Appointment of the Executive Secretary

The Board of Directors appoints the Executive Secretary.

Section 6: Vacancies

The Immediate Past-President assumes the presidency if the office is vacated before the completion of the term of office and succeeds to the past presidency the following year.

In the event that the office of President-Elect is vacated, the Board of Directors appoints a member of the Board of Directors to fill the unexpired term. The office is filled for the following year by special election. The sitting President then serves two years.

In the event that a Director-at-Large vacates the position, the President, with the consent of the majority of the Board of Directors, will appoint an individual from the NARST membership to fill vacated to complete the term.

Article V: Board of Directors

Section 1: Members

Voting members of the Board of Directors consist of the President, President-Elect, the Immediate Past President, the Research Coordinator, and the Directors-at-Large.

Ex-officio members of the Board of Directors consist of the Executive Secretary, the Editor of the *Journal of Research in Science Teaching*, and representatives of affiliated societies.

The Board of Directors transacts all official business for the Association.

The Board of Directors appoints editors and editorial boards of the Association's publications and determines their terms of office.

The Board of Directors approves membership in the organization.

The Board of Directors determines external organizations with which the Association is affiliated.

Section 2: Transacting Business

The Board of Directors meets three times a year--once at the beginning of the Annual Meeting, once at the end of the Annual Meeting and once in the Fall.

The Board of Directors may use mail, telephone, FAX or e-mail to transact business that must be conducted between regular meetings.

Section 3: Voting

Only regular members of the Board of Directors may cast official votes in the transaction of business.

Ex-officio members of the Board of Directors may enter fully into all discussions and other matters concerning the business brought before the Board either in formal meetings or by mail or wire transactions, but ex-officio members have no vote in the transaction of business of the Board of Directors.

Article VI: Meetings

Section 1: Annual Meeting.

The Board of Directors sets the time and place of the Annual Meeting.

Section 2: Business Meeting.

The Business Meeting of the Association is held at the time and place of the Annual Meeting. The members present at the regularly scheduled business meeting constitute a quorum for conducting the business meeting of the Association.

Section 3: Conduct of Meetings.

Robert's Rules of Order, Revised, governs the conduct of all meetings held by any group whatsoever in conducting the business of the Association except as otherwise specified in these Bylaws.

Article VII: Publications

Section 1: Types of Publications

The Association will publish in print and/or electronic form scholarly reports of research in science education and the activities of the Association.

Section 2: Content

The Board of Directors monitors the content and form of the Association's publications.

Section 3: Editors and Editorial Boards

The Board of Directors appoints editors and the editorial board of the Association's publications.

Section 4: Fiscal Policy

The Board of Directors approves all fiscal matters related to the Association's publications.

Article VIII: Standing Committees

Section 1: Appointment of Members

The President-Elect, with the approval of the Board of Directors, appoints members of all standing committees except where otherwise noted.

Section 2: Chairs

Members of the Board of Directors chair standing committees.

Section 3: Appointment of Committee Chairs

The chairs of standing committees are appointed by the President-Elect and approved by the Board of Directors.

Section 4: Committee Membership

All standing committee members are NARST members. The President is an *ex officio* member of all standing committees.

Section 5: Reports

Committee chairs will prepare a report for presentation at each meeting of the Board of Directors.

Section 6: Formation and Dissolution of Standing Committees

Ad Hoc committees are nominated to be new Standing Committees when their work is essential to the functioning of the Association.

Formation and dissolution of Standing Committees are approved by a vote of the membership.

Section 7: Standing Committees Membership and Responsibilities

Policy Advisory Committee

Members are the Immediate Past-President as chairperson, and six (6) members (with three-year rotating terms).

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.

Financial Advisory Committee

Members are a chairperson (three-year term), five (5) members (with three-year rotating terms), and the Executive Secretary (*ex-officio*).

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.

Publications Advisory Committee

Members are a chairperson (three-year term), three (3) members (with three-year rotating terms), the *JRST Editor*, the *NARST NEWS* Editor, the NARST Director of Electronic Services, NSTA Director of Research *(ex-officio)*, and directors of other major NARST publication efforts.

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.

Program Committee

Members are the President-Elect (Chairperson), two members of the Board of Directors, NARST Research Coordinator (*ex-officio*), the Annual Meeting Coordinator, Executive Secretary, and one

NARST member selected by the President-Elect and approved by the Board of Directors.

The Program Committee assists the President-Elect and the Annual Meeting Coordinator in planning and conducting the Annual Meeting.

Research Committee
Members are the Research Coordinator (Chairperson), six members (with three-year rotating terms), and the NSTA Director of Research.

The Research Committee advises the Association on research matters.

Election Committee
Members are the Immediate Past-President as chairperson, four (4) members (with one-year terms) and the Executive Secretary (*ex-officio*).

The Election Committee conducts the election of Association officers.

International Committee
Members are a chairperson (three-year term), and nine members (with three-year rotating terms) at least two-thirds of whom are from outside the United States. The Executive Secretary is an *ex-officio* member.

The International Committee is responsible for projects focusing on international science education research and meetings.

The chair of the International Committee serves as NARST's representative to the International Council of Associations of Science Education (ICASE).

***JRST* Award Committee**
The members are a chairperson (three-year term), twenty-one (21) committee members (with three-year rotating terms) and the Executive Secretary (*ex-officio*).

The *JRST* Award Committee is responsible for identifying the outstanding article appearing each year in *JRST*.

NARST Outstanding Paper Award Committee
The members are a chairperson (three-year term), twenty-one (21) committee members (with three-year rotating terms), and the Executive Secretary (*ex-officio*).

The Outstanding Paper Award Committee is responsible for identifying the outstanding paper presented at the previous year's annual meeting.

Distinguished Contribution through Research Award Committee
The members are a chairperson (three-year term) and six (6) committee members (with three-year rotating terms), and the Executive Secretary (*ex-officio*).

The Distinguished Contribution through Research Award Committee is responsible for identifying a member of NARST whose lifetime research has made a significant impact on science education.

Early Career Research Award Committee
The members are a chairperson (three-year term), six (6) committee members (with three-year rotating terms) and the Executive Secretary (*ex-officio*).

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.

Outstanding Doctoral Research Award Committee
The members are a chairperson (three-year term), nine (9) committee members (with three-year rotating terms), and the Executive Secretary (*ex-officio*).

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.

Outstanding Master's Research Award Committee
The members are a chairperson, nine (9) committee members (with three-year rotating terms) and the Executive Secretary (*ex-officio*).

The Outstanding Master's Research Award Committee is responsible for identifying a masters research project completed by a NARST member in the previous year that is worthy of recognition by the Association.

Equity Committee

Members are a chairperson and nine members (with three-year rotating terms).

The 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.

Membership Committee

The members are a chairperson, five members with at least one member being an international member (with three-year rotating terms) and the Executive Secretary (*ex-officio).*

The Membership Committee recruits members to NARST and ensures that the organization is responsive to the on-going needs of the membership.

Article IX: Special Committees

Upon the recommendation of the membership, the Board of Directors, or the identification by the President of a matter facing the Association requiring the attention of a special committee, the President will establish a special committee charged with attending to the matter and appoint a chair and members of the committee.

The duties of special committees will be defined when the committee is established.

Special committees are discharged at the close of the Annual Meeting unless specific action to continue the appointment is taken by the President or Board of Directors.

The chairs of Special committees prepare reports for the Annual Business Meeting and at other times at the request of the President.

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.

ARTICLE XI: Dissolution

The following provisions as to dissolution shall be observed in so far as compatible with the Minnesota Nonprofit Corporation Act, NSA 317.44-61. In the event of dissolution of the Association, the Board of Directors shall, after authorizing payment of debts and obligations, transfer the net assets to one of its affiliated organizations that is exempt from federal income taxes as a charitable and/or educational organization. Such assets shall be used to promote research in science education. If, among the affiliated organizations, none exempt, the net assets, will be transferred by a majority vote of the Board of Directors to any nonprofit university, or to any other tax exempt agency that has as one of its goals research in science education.

Article XII: Amendment of Bylaws

The Policy Advisory Committee submits amendments to the Bylaws Policy Advisory to the Board of Directors. Upon approval by the Board of Directors, the proposed amendments are mailed by the Executive Secretary to the Membership for approval. If the majority of the membership responding within 30 days indicates approval, the amendments are incorporated into the Bylaws and become immediately effective.

Ad Hoc Committee on Practitioner Research

Co-Chairs:
Deborah Roberts, Silver Spring International Middle School, Silver Spring, MD
Emily van Zee, Science Teaching Center, University of Maryland, College Park, MD

I. Committee Meeting, April 29, 2000 in New Orleans

The Ad Hoc Committee on Practitioner Research held its first meeting on April 29, 2000 in New Orleans. Participants included Elaine Howes, Jim Minstrell, Chris Pappas (sitting in for Maria Varelas) and co-chairs Deborah Roberts and Emily van Zee. Additional members of the committee include Kathryn Roth, Allen Feldman, and Joseph Krajcik.

First we discussed whose research should be the focus of this committee. Then we considered functions, possible actions, and recommendations that the committee might make.

Individuals whose research is the focus of this committee:

This committee is focusing on the needs of individuals who are conducting research on their own practices. These may include:

- pre K-12 teachers
- curriculum specialists, administrators, state science supervisors and other school personnel
- informal science educators
- college science faculty
- college science education faculty

Functions: We identified the following functions for the committee:

- Welcome teachers and other school district practitioners to the organization
- Promote and facilitate research by teachers and other practitioners
- Increase awareness and understanding of research conducted by teachers and others who are undertaking research on their own practices
- Foster continuing development of research methods feasible for use by teachers and others who are conducting research on their own practices. For example, what constitutes evidence? How are data used in support of claims?
- Increase presentations of research by teachers and other practitioners.

Possible Actions:

These functions may be accomplished through the following possible actions:

- Sponsor pre-session workshop to support/facilitate research by teachers and other practitioners
- Sponsor on-going data analysis sessions during the annual meeting similar to those conducted at the Ethnography in Education Research Forum
- Invite guest speakers who are teachers who conduct research in their own classrooms
- Provide ways for teachers to apply for funding to join NARST and attend meetings, similar to AAAS corporate sponsorships of registrations for teachers and AERA graduate student travel grants
- Creation-going forum for issues in practitioner research at all levels, preK-university
- Organize a conference for teachers and other practitioners who are conducting research on science learning and teaching (perhaps in conjunction with NSTA/NARST meeting)
- Develop a web site to provide information and assistance to teachers and others interested in conducting research on their own practices
- Reach out to teachers in the city where the annual meeting is held and invite them to come to sessions where teachers are presenting their research
- Create ways to provide grant opportunities for teachers to support their research
- Establish an electronic newsletter for teacher researchers and others conducting research on their own practices
- Start a print journal or devote part of JRST to practitioner research
- Provide a special membership rate for teachers (but include voting privileges)
- Link to the International Conference on Teacher Research that usually meets the weekend after AERA

Recommendations:

We agreed on the following recommendations for NARST members and the organization:

- Treat teachers as individuals who have valuable information to contribute to the science education community
- Encourage teachers to participate by acknowledging there is value in the research they conduct
- Invite teachers to present with or without university connection
- Provide positive feedback and reflection when teachers present
- Avoid causing the devastation that teachers sometimes experience when they become aware of interpretations, which may or may not be appropriate, of data collected in their classrooms by others, or even by themselves when associated with a university project

II. Relevant Activities during the 2000 Meeting in New Orleans

There were several well-attended sessions during the New Orleans meeting that had been arranged by President Abell. These included a reception for teacher researchers on Friday evening and a symposium on Sunday morning.

Reception for Teacher Researchers

At the reception on Friday evening, April 28, we invited attendees to select a topic and contribute their wisdom on post-its in response to the following questions: "What is your definition of teacher research? What questions do you have about teacher research? Why is teacher research exciting? satisfying? frustrating? challenging? beneficial? What advice do you have for teachers interested in becoming teacher researchers?"

Definitions of "teacher research" varied widely. These included research conducted ON teachers by others who study teacher behaviors, attitudes, beliefs, and knowledge, research conducted WITH teachers by university researchers who design collaborative projects, research conducted BY teachers investigating science topics, and research conducted BY teachers on science teaching and learning in their own classrooms.

Questions about teacher research seemed to center around the latter definition of research, that is, research conducted by teachers on their own teaching practices. Some questions focused on the status of such research: " Is it still research even if no new (here-to-fore not known) findings come from the "research"?""Is it teacher research if the work never gets published/presented for general consumption?" "Teacher research is very powerful for those of us who participate in it and yet it isn't recognized by many as "real" research. Does this matter? If so, should we do anything about it?" Some questions focused on pragmatic issues: "For the classroom teacher as researcher, how do you learn to manage the politics within the institution which constrain practice?" "How can I get better at advising doctoral students (and master's) in developing and conducting teacher research? " " How can teacher research become a bona fide component of teacher preparation programs?" One question pondered the nature of such research: "why is teacher research motivating?"

Advice included "Start simple; keep it simple" and "Work with a person who encourages you to choose your own issues."

Comments about teacher research included that it is exciting ("because you will always be so surprised"), satisfying ("because when I discover I have just failed to help students learn something I can put on my researcher "hat" and begin to probe the alternative understandings of my students.

That way I never fail."), frustrating ("because the positivist dinosaurs invalidate teacher research as too subjective due to our refusal to objectify the people we're studying, including ourselves"), challenging (because "there is little money and little support") and beneficial ("because it will help you improve learning and your teaching").

Research into Practice: A Symposium for Teacher Researchers

At the symposium on Sunday, April 30, participants discussed a wide variety of issues. These also seemed to focus on teacher research as inquiry into one's own teaching practices.

One characteristic of such teacher research is that the things that are being studied are changing whereas in traditional research one is "holding things in place." Teacher researchers struggle to write along the way, not only in finding time to do their writing but also in exploring alternative ways of communicating such as stories, photo essays, etc Another issue is who is the audience for teacher research? Is it just for the teacher doing the research? for school colleagues? for a broader community? What is valuable in making the findings of teacher research public? What is the role of universities?

Also discussed were differences between literary traditions and science, that teachers in literacy fields are used to writing "what do you think about it" but teachers in science are used to doing experiments, controlling variables, trying to find the "right" answer. They are more comfortable with an engineering approach to research, to trying to design the best prototype lesson given everything they know and then trying it out, which is a form of research.

Another issue is the nature of questions that teachers choose to research and ways in which these change as the research progresses. Teacher questions can be very broad ("How do we teach science? How do kids learn science?) How does one develop a manageable question? One that is doable? What data are appropriate to collect? What is one going to do with those data?

Time is a huge issues, how to find time to read the literature, to meet with colleagues, to interpret data, to write things up, to present at conferences.

III. Preparations for the 2001 Meeting in St. Louis

The co-chairs of the committee have carried out three of the action items in planning for the 2001 NARST meeting in St. Louis. These include applying for a joint NSTA/NARST poster session for teacher researchers, for

a NARST session that focuses on methodology, and for a pre-conference workshop to support and facilitate research by teachers and other practitioners.

NARST/NSTA Poster Session for Teachers Who Are Inquiring into Science Learning and Teaching

The co-chairs of the committee applied to host a poster session at the National Science Teachers Association meeting that precedes the NARST meeting in St. Louis as one of the joint NARST/NSTA sessions. Their proposal was approved. This poster session will showcase the work of teachers who have formulated questions to explore in the context of their own science teaching practices and of teachers who are collaborating with others as colleagues (rather than as subjects) in research projects based in colleges, government agencies such as NASA, museums, or other institutions. The National Research Council recommended that professional development for teachers of science "provide opportunities to learn and use the skills of research to generate new knowledge about science and the teaching and learning of science" (NRC, 1996, p. 68). This poster session will provide an opportunity for teachers who have been participating in such professional development to share their findings.

Application for NARST Session on Methodology for Practitioner Researchers

The co-chairs of the committee also applied to host a "novel format" session at the NARST meeting entitled "Collaborative Inquiry about the Process of Researching While Teaching." The purpose of this session will be to provide opportunities for teachers and others who conduct research on their own teaching practices to discuss how they conduct research while they teach. This session will be grounded in the studies by presenters in the joint NSTA/NARST poster session for teacher researchers and for teacher educators who model researching while teaching their courses. If approved, the presenters will facilitate small group discussions by sharing some of the data they collected in their classrooms and inviting participants to join them in interpreting these data. The emphasis during this session will not be upon the findings, which will have been reported during the joint NSTA/NARST poster session, but rather upon reflecting about the methodology used in these studies. 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.

Application for NARST Pre-Conference Workshop

In addition, the co-chairs of the committee have applied to put on a pre-conference workshop entitled "Inquiring into One's Own Teaching

Practices." If approved, the workshop will begin with introductions of all participants. Next the facilitators will briefly summarize their own studies (1-3 minutes each). Then we will break into small groups by level: elementary teachers, middle school teachers, high school teachers, college science faculty, college education faculty, and informal science educators. During a series of four small-group data-interpretation sessions, participant presenters will state the issues they are examining, describe their settings, present some data, and invite the other participants to help them develop interpretations of these data. Facilitators will help moderate these conversations. The workshop will close with a whole group discussion of issues that emerge when one attempts to conduct research in one's own classroom.

Committee Progress Report for NARST Board Meeting
(Confidential--for discussion by board members only)

St. Louis, October 2000

2001 Distinguished Contributions to Science Education Through Research Award

Chair: Patricia E. Simmons
Committee members: Zoubeida Dagher, Vincent Lunetta, Carl Berger, Hanna Arzi, Bill Cobern, Anita Roychoudhury

A. A call for nominations for the 2001 Distinguished Contributions to Science Education Through Research Award was solicited three times through the Narst listserve and in the April/May edition of the NARST-News (see below). All nominees were nominated through the list serve call.

Nomination of Candidates for the Distinguished Contributions
to Science Education Through Research Award:

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.

Please email nominations to Patricia Simmons, Chair, Distinguished Contributions Committee, at psimmons@umsl.edu by September 15, 1999.

B. The nominees included: Barry Fraser, Dorothy Gabel, Audrey Champagne, John Gilbert, Meshach Ogunyani, Ken Tobin, Glen Aikenhead, Bob Yager, Ann Howe, Frank Sutman, Tony Lawson, and Ron Anderson.

C. Each nominee was contacted and asked if they wished to proceed with the nomination process (and to provide a short vita). Of the twelve nominees, three declined to continue with the nomination process and one was a past recipient of the award.

D. The short cv's were distributed to the committee for review (the committee is in the review process). The nominees for the pool include: Barry Fraser, Dorothy Gabel, Audrey Champagne, John Gilbert, Meshach Ogunyani, Bob Yager, Ann Howe, and Ron Anderson.

E. I seek the approval from the NARST Executive Board to solicit the full CV and letters of support from colleagues for the nominations.

Sincerely,

Patricia E. Simmons

Patricia E. Simmons
Chair
Distinguished Contributions to Science Education Through Research Award

Journal of Research in Science Teaching Operating Budget
Year One

	Sponsor	ASU Contribution	Total
PERSONNEL			
Journal Editors			
Dale Baker			
25% Fall Semester	$0	$8,246	$8,246
Michael Piburn			
25% Fall Semester	$0	$8,706	$8,706
Staff			
Project secretary			
25% Fiscal Year	$7,692		
Project copy editor			
25% Fiscal Year		$8,000	
Research Assistants			
Research Assistants (3)			
25% Effort AY and Summer	$7,000	$14,000	$21,000
Total Personnel	$14,692	$38,952	$53,644
ERE			
Editors and Staff @ 15%	$2,308	$3,743	$6,050
Research Assistants @ 4%	$280	$560	$840
Total ERE	$2,588	$4,303	$6,890
TOTAL PERSONNEL	$17,280	$43,255	$60,535
OFFICE EXPENSES			
(Including postage, phone/fax,			
paper productes and copying)	$6,220	$0	$6,220
TOTAL OFFICE EXPENSES	$6,220	$0	$6,220
TRAVEL	$1,000	$0	$1,000
TOTAL TRAVEL	$1,000	$0	$1,000
TOTAL DIRECT COSTS	$24,500	$43,255	$67,755
INDIRECT COSTS (52.5%):	$0	$35,571	$35,571
TOTAL PROJECT COSTS:	$24,500	$78,826	$103,326

Since the University cannot recover its indirect cost of 52% of modified total direct costs toward this project, it has shown this as cost share toward the project. This amount represents University facilities and services that are otherwise provided for through the generation of indirect costs.

Also the College of Education will contribute existing furniture toward this project as necessary such as a computer table, desks, bookcases, chairs, and file cabinets. This contribution cannot be quantified and therefore will not be reported as official cost sharing toward the project.

Journal of Research in Science Teaching Operating Budget
Year Two

	Sponsor	ASU Contribution	Total
PERSONNEL			
Journal Editors			
Dale Baker			
25% Fall Semester	$0	$8,246	$8,246
Michael Piburn			
25% Fall Semester	$0	$8,706	$8,706
Staff			
Project secretary			
25% Fiscal Year	$8,077		
Project copy editor			
25% Fiscal Year		$8,000	
Research Assistants			
Research Assistants (3)			
25% Effort AY and Summer	$7,350	$14,000	$21,350
Total Personnel	$15,427	$38,952	$54,379
ERE			
Editors and Staff @ 15%	$2,423	$3,743	$6,166
Research Assistants @ 4%	$294	$560	$854
Total ERE	$2,717	$4,303	$7,020
TOTAL PERSONNEL	$18,144	$43,255	$61,399
OFFICE EXPENSES			
(Including postage, phone/fax, paper productes and copying)	$6,356	$0	$6,356
TOTAL OFFICE EXPENSES	$6,356	$0	$6,356
TRAVEL	$1,000	$0	$1,000
TOTAL TRAVEL	$1,000	$0	$1,000
TOTAL DIRECT COSTS	$25,500	$43,255	$68,755
INDIRECT COSTS (52.5%):	$0	$36,096	$36,096
TOTAL PROJECT COSTS:	$25,500	$79,351	$104,851

Since the University cannot recover its indirect cost of 52% of modified total direct costs toward this project, it has shown this as cost share toward the project. This amount represents University facilities and services that are otherwise provided for through the generation of indirect costs.

Also the College of Education will contribute existing furniture toward this project as necessary such as a computer table, desks, bookcases, chairs, and file cabinets. This contribution cannot be quantified and therefore will not be reported as official cost sharing toward the project.

Journal of Research in Science Teaching Operating Budget
Year Three

	Sponsor	ASU Contribution	Total
PERSONNEL			
Journal Editors			
Dale Baker			
25% Fall Semester	$0	$8,246	$8,246
Michael Piburn			
25% Fall Semester	$0	$8,706	$8,706
Staff			
Project secretary			
25% Fiscal Year	$8,481		
Project copy editor			
25% Fiscal Year		$8,000	
Research Assistants			
Research Assistants (3)			
25% Effort AY and Summer	$7,718	$14,000	$21,718
Total Personnel	$16,198	$38,952	$55,150
ERE			
Editors and Staff @ 15%	$2,544	$3,743	$6,287
Research Assistants @ 4%	$309	$560	$869
Total ERE	$2,853	$4,303	$7,156
TOTAL PERSONNEL	$19,051	$43,255	$62,306
OFFICE EXPENSES			
(Including postage, phone/fax,			
paper productes and copying)	$6,449	$0	$6,449
TOTAL OFFICE EXPENSES	$6,449	$0	$6,449
TRAVEL	$1,000	$0	$1,000
TOTAL TRAVEL	$1,000	$0	$1,000
TOTAL DIRECT COSTS	$26,500	$43,255	$69,755
INDIRECT COSTS (52.5%):	$0	$36,621	$36,621
TOTAL PROJECT COSTS:	$26,500	$79,876	$106,376

Since the University cannot recover its indirect cost of 52% of modified total direct costs toward this project, it has shown this as cost share toward the project. This amount represents University facilities and services that are otherwise provided for through the generation of indirect costs.

Also the College of Education will contribute existing furniture toward this project as necessary such as a computer table, desks, bookcases, chairs, and file cabinets. This contribution cannot be quantified and therefore will not be reported as official cost sharing toward the project.

Journal of Research in Science Teaching Operating Budget

Year Four

	Sponsor	ASU Contribution	Total
PERSONNEL			
Journal Editors			
Dale Baker			
25% Fall Semester	$0	$8,246	$8,246
Michael Piburn			
25% Fall Semester	$0	$8,706	$8,706
Staff			
Project secretary			
25% Fiscal Year	$8,905		
Project copy editor			
25% Fiscal Year		$8,000	
Research Assistants			
Research Assistants (3)			
25% Effort AY and Summer	$8,103	$14,000	$22,103
Total Personnel	$17,008	$38,952	$55,960
ERE			
Editors and Staff @ 15%	$2,671	$3,743	$6,414
Research Assistants @ 4%	$324	$560	$884
Total ERE	$2,996	$4,303	$7,298
TOTAL PERSONNEL	$20,004	$43,255	$63,258
OFFICE EXPENSES			
(Including postage, phone/fax,			
paper productes and copying)	$6,496	$0	$6,496
TOTAL OFFICE EXPENSES	$6,496	$0	$6,496
TRAVEL	$1,000	$0	$1,000
TOTAL TRAVEL	$1,000	$0	$1,000
TOTAL DIRECT COSTS	$27,500	$43,255	$70,754
INDIRECT COSTS (52.5%):	$0	$37,146	$37,146
TOTAL PROJECT COSTS:	$27,500	$80,401	$107,900

Since the University cannot recover its indirect cost of 52% of modified total direct costs toward this project, it has shown this as cost share toward the project. This amount represents University facilities and services that are otherwise provided for through the generation of indirect costs.

Also the College of Education will contribute existing furniture toward this project as necessary such as a computer table, desks, bookcases, chairs, and file cabinets. This contribution cannot be quantified and therefore will not be reported as official cost sharing toward the project.

Journal of Research in Science Teaching Operating Budget

Year Five

	Sponsor	ASU Contribution	Total
PERSONNEL			
Journal Editors			
Dale Baker			
25% Fall Semester	$0	$8,246	$8,246
Michael Piburn			
25% Fall Semester	$0	$8,706	$8,706
Staff			
Project secretary			
25% Fiscal Year	$9,350		
Project copy editor			
25% Fiscal Year		$8,000	
Research Assistants			
Research Assistants (3)			
25% Effort AY and Summer	$8,509	$14,000	$22,509
Total Personnel	$17,859	$38,952	$56,810
ERE			
Editors and Staff @ 15%	$2,805	$3,743	$6,548
Research Assistants @ 4%	$340	$560	$900
Total ERE	$3,145	$4,303	$7,448
TOTAL PERSONNEL	$21,004	$43,255	$64,259
OFFICE EXPENSES			
(Including postage, phone/fax, paper productes and copying)	$6,496	$0	$6,496
TOTAL OFFICE EXPENSES	$6,496	$0	$6,496
TRAVEL	$1,000	$0	$1,000
TOTAL TRAVEL	$1,000	$0	$1,000
TOTAL DIRECT COSTS	$28,500	$43,255	$71,755
INDIRECT COSTS (52.5%):	$0	$37,671	$37,671
TOTAL PROJECT COSTS:	$28,500	$80,926	$109,426

Since the University cannot recover its indirect cost of 52% of modified total direct costs toward this project, it has shown this as cost share toward the project. This amount represents University facilities and services that are otherwise provided for through the generation of indirect costs.

Also the College of Education will contribute existing furniture toward this project as necessary such as a computer table, desks, bookcases, chairs, and file cabinets. This contribution cannot be quantified and therefore will not be reported as official cost sharing toward the project.

November 1999

CURRICULUM VITAE

Ann C. Howe
Professor of Science Education (Retired)
Adjunct Professor, North Carolina State University
1614 Park Drive, Raleigh, NC 2760

EDUCATION

Ph. D.	University of Texas at Austin Major: Science and Mathematics Education
---	State University of New York at Potsdam Courses for Certification
M.A.	University of North Carolina Major: Organic Chemistry
B.A.	University of Richmond Major: Chemistry

POSITIONS HELD

1997 -	Adjunct Professor of Science Education, North Carolina State University
1989 - 1994	Professor and Chair, Department of Curriculum and Instruction, University of Maryland at College Park (Retired 12/31/94)
1983 - 1989	Professor and Head, Department of Mathematics and Science Education, North Carolina State University
1984 - 1986	Founder and Director, Center for Research in Mathematics and Science Education, North Carolina State University
1979 - 1983	Professor of Science Education; Coordinator for Secondary Education, Syracuse University
1978 - (Jan.-June)	Visiting Staff Member, Concepts in Secondary Mathematics and Science Project. Chelsea College, University of London
1974 -1979	Associate Professor of Science Education, Syracuse University
1972 -1974	Assistant Professor of Science Education, Syracuse University
1970 -1972	Assistant Professor (Visiting), Early Childhood Project, Syracuse University
1969 -1970	Science Education Coordinator, Southwest Educational Development Laboratory, Austin Texas
1964 -1966	Elementary Science Teacher, Laboratory School of the University of Chicago

1962 -1964 Instructor and Research Associate in Chemistry, Clarkson College.

1951 -1962 Time devoted to family; not employed.

1949 -1951 Research Assistant, University of North Carolina.

1948 -1949 Instructor in Chemistry, University of Puerto Rico.

Honors and Awards

Member, Phi Beta Kappa
Member, Sigma Xi
Member, Mortar Board
Fellow, American Association for the Advancement of Science
Distinguished Alumna Award (University of Richmond, 1995)
Who's Who of American Women, World's Who's Who of Women
Who's Who in the East
JRST Award for Best Article of 1978 (with J. Johnson)
AETS Award for Article Translating Theory into Practice (with H. Stubbs) -1996
AETS Award for Article Translating Theory into Practice (with M. Halpin) -2000

Consultancies

Consultant, Houghton-Mifflin Company, for Science, a Textbook series for K-6.

Consultant. Educational Opportunity Program supported by FIPSE Grant. State University of New York at Binghamton, 1982.

Consultant on Middle School Science Programs. Research Triangle Institute, Research Triangle Park, NC. 1985-86.

Evaluator. Middle School Science and Mathematics Program (NSF Sponsored). Potsdam College, Potsdam, NY 1987-90

Evaluator. Biomedical Research Advancement: Saturday Scholars (BRASS). National Institutes of Health. Bethesda, MD. 1991- 1993

Evaluator. GLOBE-NET Project. North Carolina State University. 1992- 95.

Evaluation Consultant. Earth Explorer Group. Washington, DC. 1993.

Consultant. SCI-LINK Project.(NSF Sponsored) North Carolina State University. 1991-1994.

Evaluator for Magnet Schools. Prince George's County, MD. 1995.

Evaluator. Project Alliance. American Association for the Advancement of Science. 1994- 1998.

Evaluation Consultant. V-TEC Project. Sigma Xi, Research Triangle Park, NC. 1994-97.

Evaluation Consultant. Winners II Project. North Carolina School of Science and Mathematics. 1995-1998.

Curriculum Vitae for Professor John K. Gilbert

Data
Born 27 April 1940, London, England
Married to Julie Gilbert since 1963: four adult children

Educational Qualifications
B.Sc. (Hons.)(Chemistry): University of Leicester, 1962
D.Phil. (Chemistry): University of Sussex, 1965
Postgraduate Certificate in Education: University of London, 1968

Employment Record
Schoolteacher (Chemistry)(The King,s School, Rochester), 1965-68
Head of Chemistry (Banbury School), 1968-71
Lecturer in Science Education (University of Keele) and Professional Tutor (Shrewsbury School), 1972-74
Senior Lecturer in Science Education (University of Surrey), 1974-85
Reader in Science Education (University of Surrey), 1985-88
Professor of Education (University of Reading), 1988-
Associate Editor (1988-91) and Editor-in-Chief (1991-) of the International Journal of Science Education

Personal statement
My research in science education has, since the mid-1970s, had three committments: to constructivism; to the close relation between theory and practice; to internationalism. I summarise my work below, including a few illustrative references. The ŒInterview-about-Instances, technique, which I invented jointly withthe late Dr. Roger Osborne (Gilbert,Watts,Osborne,1985) , has been very widely used to identify students, Œalternative conceptions, across subjects, countries, and age-bands. The interpretation of the data so obtained has contributed to the emergence of context-dependent approaches to cognitive development (Gilbert, Osborne, Fensham,1982). The technique has also served to sensitise science teachers, both pre- and in-service, to the understandings that students bring with them to the classroom. Moving a broadly constructivist perspective into the area of science teacher education led to a book based on empirical work (Bell and Gilbert, 1996) which has both influenced practice and led to further research. In recent years my work has shifted in focus but not in theoretical orientation. I am currently Director of the Œcentr e for Models and Modelling in Science and Technology: Research in Education, (CMISTRE), based at The University of Reading. This is a voluntary association of researchers with similar interests, drawing together individuals of diverse talents, which currently has some 30 active members in 8 countries. Rendered coherent by joint projects, email, mutual visits, symposia at international conferences, and a website (http://www.rdg.ac.uk /~ems97pc/mistre), CMISTRE works at the interface between mental modelling, the history and philosophy of science, and linguistics (e.g. Justi and Gilbert, 1999). In addition to a collaborative book (Gilbert and Boulter, in press), the group has forged links between science education and both museum (science centre) education and Œdesign and technology, education.
Over the years I have supervised some 30 Ph.D.s. Every thesis has involved the collection of qualitative data in one or more of schools, universities, the community. The holders have, in almost all cases, gone

on to subsequently make further significant contributions to science education research. I am especially proud of the 6 Brasilians (Colinvaux, Zylbersztajn, Justi, Franco, Borges, Zimmermann) who are leaders in science education research in that country.
Since my appointment as Editor-in-Chief in 1991, the International Journal of Science Education has expanded from 4 Issues per Volume (in 1991) to 12 Issues per Volume (in 1999). I pursue a threefold policy: to forge links between empirically-based, theoretically-driven, research work and classroom practice; to draw the attention of the international community to good work, wherever it occurs; and, through the selective provision of constructive feedback on submitted manuscripts, to provide support for the development of inexperienced or professionally disadvantaged researchers. It is hard work, in which I have the invaluable support of 3 Regional Editors and over 140 reviewers. I also greatly enjoy this opportunity to contribute, albeit in this context indirectly, to research in science education at world level.

Bell, B.F., Gilbert, J.K.(1996). Teacher Development: A Model from Science Education. London: Falmer Press

Gilbert, J.K., Boulter, C.J. (eds.)(in press). Developing Models in Science Education. Dordrecht: Kluwer

Gilbert, J.K., Watts, D.M., Osborne, R.J.(1985). Eliciting student views using an Interview-about-Instances technique. In: L.West, A. Pines (eds.), Cognitive structure and conceptual change. London: Academic Press (pp.279-291)

Gilbert, J.K., Osborne, R.J., Fensham, P.F.(1982). Children,s science and its consequences for teaching. Science Education, 66(4), 623-633.

Justi, R., Gilbert, J.K.(1999). History and Philosophy of Science through Models: the case of chemical kinetics. Science and Education, 8, 287-307

GABEL, DOROTHY L.
Professor of Science Education
Graduate and Undergraduate Faculty
Indiana University 1974-present

Indiana University
School of Education
201 N. Rose Street
Bloomington, IN 47405-1006
gabel@indiana.edu

Academic Degrees

Ph.D.	Purdue University	1974	Science Education
M.S.	Purdue University	1969	Chemistry Education
A.B.	Rosary College	1957	Chemistry

Professional Experience

1974-2000 Indiana University, Full Professor, 1983, Science Education Program Area Coordinator, 1986-1993; 1997-
1987-1988 National Science Foundation, Program Director, Teacher Preparation
1985-1986 (Summers) University of Maryland, Associate Director and Instructor at the Institute of Chemical Education
1974-1977 Indiana University, Director of Secondary Science Teacher Preparation Program
1971-1973 Purdue University, Associate Director NSF Chemistry Institute
1971-1974 Purdue University, Instructor of Chemistry and Chemistry Education
1970-1971 Purdue University, Instructor of Biology
1966-1970 Omaha, Nebraska, Cathedral High School, Department Chairperson and Chemistry, Physics and Mathematics Teacher.
1959-1966Madison, Wisconsin, Edgewood High School, Chemistry and Mathematics Teacher

Funded Proposals

Fourteen funded proposals including NSF, ACS, NSTA, Indiana Higher Education Commission, Proffitt, NASA, and Indiana University.

Awards

Carleton Award (1999) for National Leadership in Science Education from National Science Teachers Association.
Two JRST Awards (1978,1980) for the outstanding research report in the Journal of Research in Science Teaching and five awards for presentations at the annual meeting (1981, 1982, 1983, 1986, 1987) that have the greatest relevance for teaching from the National Association for Research in Science Teaching.
Outstanding Science Award (1996) Hoosier Science Teacher Association.

Professional and Academic Association Memberships

National Association For Research in Science Teaching (Executive Board 1990-93) (President 1994-95)
School Mathematics and Science Association (President 1989-91)
Hoosier Science Teachers (President 1979-80)
National Science Teachers Association (Research Division Director, 1983-85) Board, 1983-85, Executive Committee, 1984-85
(Research Handbook Task Force Chair 1989-93) Election Committee, Executive Director Search Committee, 1995-96
American Chemical Society (Personnel & Nomination Chair, DivCHED, 1989-94)
American Association for the Advancement of Science (Section Q Delegate at large 1988-92)
American Education Research Association
Phi Kappa Phi
Phi Delta Kappa
Association for the Education of Teachers in Science
Indiana Academy of Science
Council for Elementary Science International

Books and Special Issues

Chemistry, the Study of Matter. (High school chemistry text) with Doran and Demmin, Needham, MA: Prentice Hall, 1989.

Solving Chemistry Problems Involving Moles: A Student's Illustrated Guide. Fairfield, NJ: Cebco Standard Publishing, 1983.

Introductory Science Skills. Prospect Heights, IL: Waveland Press, 1984.

A Summary of Research in Science Education. Science Education, 64 (4) 1-568, 1980.

Handbook of Research on Science Teaching and Learning (1994), editor.

Representative Publications

Different approaches for teaching volume and students' visualization ability. (1987). Science Education, 71(4), 591-597.

Using analogs for meaningful chemistry problem solving: Does it increase understanding? (1990). School Science and Mathematics, 90(8), 674-682. (with Fridel)

Enhancing Chemistry problem-solving achievement using problem categorization. (1991), Journal of Research in Science Teaching, 28(6), 505-521. (with Diane Bunce).

The use of the particle nature of matter in promoting conceptual understanding. (1993). Journal of Chemical Education, 70(3), 193-194.

What Research Says to the Science Teacher about Problem Solving.(1990). (Editor and chapter on chemistry). NSTA, Washington, D.C.

SourceView and the SourceView User's Guide, (1993), and SourceView CD Rom (1994) distributed by the American Chemical Society.

Handbook of Research on Science Teaching and Learning, (1994), (editor), New York: Macmillan.

Research on chemistry problem solving, (1994), in Handbook of Research on Science Teaching and Learning, New York: Macmillan (with Bunce).

SourceView, (1993) video disc version containing an interactive CD Rom on Mathematical Problem Solving, Classroom Instruction, Laboratory Instruction.

The Complexity of Chemistry and Implications for Teaching. (1998) in International Handbook of Science Education (B.J. Fraser & K.G. Tobin, eds.). Norwell, MA: Kluwer Academic Publishers.

Improving Teaching and Learning through Chemistry Education Research, (1999), Journal of Chemical Education, 76(4) 348-554.

Other Publications

40 research publications in refereed journals including Journal of Research in Science Teaching, Science Education, School Science and Mathematics, Journal of Chemical Education, Science and Children, Science Scope, and The Science Teacher.

Numerous articles on teaching including the Journal of Chemical Education, The Hoosier Science Teacher, School Science and Mathematics, Science Activities, Chemunity, Viewpoints, and Science and Children.

Papers/Presentations

Research papers (45) and teaching presentations (70) at state and national meetings including the National Association for Research in Science Teaching, the Hoosier Association of Science Teachers, School Science and Mathematics, American Chemical Society, American Association for the Advancement of Science, and the National Science Teachers Association. Numerous workshops on preparing elementary science teachers and the teaching of high school chemistry for school districts.

ABBREVIATED RESUMÉ FOR DR BARRY J. FRASER

Current and Recent Positions: Curtin University of Technology, Western Australia

Professor of Education (Personal Chair: 1985–)
Head of School of Curriculum Studies within the Faculty of Education (1982–88)
Director of Science and Mathematics Education Centre within the Division of Engineering and Science (1984–)
Director of national Key Centre for School Science and Mathematics (Especially for Women) (1988–)

Previous Positions

Senior Lecturer/Lecturer in Education, Macquarie University, Sydney (1976–81)
Senior Tutor, Monash University, Melbourne (1972–75)
Research Officer, Australian Science Education Project (1971–72)
Science and Mathematics Teacher, Victorian Education Department (1969–71)

Qualifications and Fellowships

BSc (Melbourne; 1967)
DipEd, BEd, PhD (Monash; 1968–76)

FACE (Fellow of Australian College of Education; 1994–)
FASSA (Fellow of Academy of Social Sciences in Australia), 1997–
FAAAS (Fellow of American Association for the Advancement of Science) 1997–
FIAE (Fellow of International Academy of Education), 1998–

International Handbook of Science Education

Co-editor of Kluwer Academic Publishers' 2-volume, 72-chapter, 1200-page *International Handbook of Science Education* (1998), which is the most comprehensive book ever published in science education.

Responsibility for World's Largest Graduate Program in Science Education

Currently responsible for the world's largest graduate programs in science and mathematics education, consisting of approximately 500 students (including approximately 300 doctoral students). I have been, or currently am, the major adviser/professor for 70 doctoral students.

Director, Key Centre for Teaching and Research in School Science and Mathematics (Especially for Women)

Director of Australia's only federally-funded national centre of excellence in education, which received approximately $2 million during 1988–96.

Australian Research Council (ARC)

Appointed as the only member of Australian Research Council Discipline Panel (Social Sciences and Humanities) for 1993–95 responsible for the field of Education. (ARC is equivalent to NSF.)

Fourteen Awards from U.S. Associations

AETS Outstanding Science Educator of the Year Award, 1991, Association for the Education of Teachers of Science, USA
AETS Award for Implications of Research for Educational Practice, Association for Education of Teachers of Science in USA (1988)
Three NARST Outstanding Paper Awards, National Association for Research in Science Teaching in USA (1984, 1986 and 1988)
NARST Practical Applications Award (1986)
Eight AERA Outstanding Paper Awards, Special Interest Group on Study of Learning Environments, American Educational Research Association in 1989, 1991, 1994 (2 awards), 1995, 1996, 1998 and 1999

Research Grants

Approximately $3.5 million has been received from Australian Research Council (ARC, which is the equivalent of the NSF in the USA), Department of Employment, Education and Training, Schools Commission, Education Research and Development Committee, Department of Education and Youth Affairs, Education Department of Western Australia, Commonwealth Tertiary Education Commission, etc.

Publications and Conference Presentations

Current list of 717 publications and presentations includes:

54 books, monographs or tests
70 book chapters
176 articles in refereed journals published overseas
81 articles in refereed journals published in Australia
217 papers presented at overseas conferences

Major Published Books and Tests

International Handbook of Science Education (Dordrecht, The Netherlands, Kluwer, 1998)
Improving Teaching and Learning in Science and Mathematics (New York, Teachers College Press, 1996)
Gender, Science and Mathematics: Shortening the Shadow (Dordrecht, The Netherlands, Kluwer, 1996)
Improving Science Education (Chicago, National Society for Study of Education, 1995)
Educational Environments: Antecedents, Consequences, and Evaluation (Oxford, Pergamon Press, 1991)
Windows Into Science Classrooms: Problems Associated with Higher-Level Cognitive Learning (London, Falmer Press, 1990)
Individualised Classroom Environment Questionnaire (Melbourne, Australian Council for Educational Research, 1990)
Syntheses of Educational Productivity Research (London, Pergamon Press, 1987)
Exemplary Practice in Science and Mathematics Education (Perth, Curtin University, 1987)
Processes of Curriculum Development and Evaluation (Canberra, Curriculum Development Centre, 1987)
The Study of Learning Environments, Volumes 1, 2 & 3 (Oregon, Assessment Research, 1986, 1987, 1988)
Classroom Environment (London, Croom Helm, 1986)
Test of Science Related Attitudes (TOSRA) (Melbourne, Australian Council of Educational Research, 1981)

Editorial Responsibilities

Foundation Editor-in-Chief, *Learning Environments Research: An International Journal* (Kluwer, 1998–)
Co-editor, *International Journal of Educational Research*, Pergamon Press/Elsevier Science (1989–1998)
Co-editor, *South Pacific Journal of Teacher Education*, Carfax Publishers (1988–1994)
Australasian Editor, *Journal of Curriculum Studies*, Taylor & Francis (1982–87)
Current or recent Editorial Board Member for *Studies in Educational Evaluation, Journal of Research in Science Teaching, Journal of Research in Childhood Education, Research in Science and Technological Education, New Directions in Program Evaluation, School Science and Mathematics, Asia-Pacific Journal of Education, Curriculum Forum, and Curriculum Perspectives*

Contributions to Professional Associations

National Association for Research in Science Teaching (NARST) (USA)

- First non-American President-Elect, President and Past President in the Association's history (1994–97)
- First non-American Member of Board of Directors (1991–94)
- Chair of Committee on International Affairs (1991–94)
- Member of Committee on International Affairs (1987–90), Elections Committee (1996–97) and Policy Advisory Committee (1996–98)
- Organiser of annual conference in San Francisco (1995)

American Educational Research Association (AERA)

- Current Chair of AERA International Relations Committee
- Co-founder of Special Interest Group (SIG) on Study of Learning Environments in 1984
- Chair of SIG on Study of Learning Environments (1986–88) and Editor of annual SIG monograph (1985–88)

International Academy of Education (IAE)

- Member, Board of Directors (1998–)
- Executive Director (1990–)

AUDREY B. CHAMPAGNE

Audrey B. Champagne is a Professor in the Department of Educational Theory and Practice in the School of Education and in the Department of Chemistry in the College of Arts and Sciences at the University at Albany, State University of New York (SUNY). Champagne is co-principal investigator of the Students' Construction of Scientific and Mathematical Explanations Project, a project located in the National Center for English Learning and Achievement which is funded by the U. S. Department of Education. Champagne is co-Principle Investigator of a National Science Foundation funded Local Systemic Initiative titled Assessment in the Service of Learning.

Champagne served as Chair of the Department of Educational Theory and Practice from 1991-1995 and was President of the University at Albany Senate in 1994. From 1984 to 1990, she directed the American Association for the Advancement of Science Forum for School Science and Project on Liberal Education and the Sciences. Champagne was a Senior Scientist and Project Director at the Learning Research and Development Center at the University of Pittsburgh where she did cognitive research in students' understanding of physics and developed computer-based instructional programs for physics and base-10 numeration. Champagne has published papers on the K-12 science curriculum, undergraduate science education, the psychology of science learning, and science testing and assessment. Her current research focuses on the role of writing in the development of understanding scientific principles and the assessment of science understanding through the analysis of students' extended written responses.

Champagne is a fellow of the American Association for the Advancement of Science, a member of the American Chemical Society and the American Educational Research Association. She has served on the boards of the National Science Teachers Association and the National Association for Research in Science Teaching (NARST). She was President of NARST in 1997.

Champagne was active in the development of the National Research Council of the National Academy of Science, Engineering and Medicine's *National Science Education Standards*. She served as chair of the Assessment Working Group of the National Research Council's Committee on Science Education Standards and Assessment and was one of a team of five individuals responsible for drafting the final standards document.

Champagne has been actively involved in U.S. and international activities in the assessment of science. She serves on the National Assessment of Educational Progress (NAEP) Science Advisory Committee and on the U.S. Committee for the Third International Mathematics and Science Study (TIMSS). She is a member of the Frameworks Panel for TIMSS 2003 She has advised on the development of the test frameworks and items for the NAEP, TIMSS, and TIMSS-R Science, participated in setting the proficiency levels for NAEP Science. Champagne is the co-author of a national report on proficiency levels. She is also a member of the National Center for Education Statistics' NAEP Validity Studies Committee.

Champagne serves on the National Visiting Committees for several NSF funded projects and regularly serves on review panels for the NSF. Champagne has served on the editorial boards of *Science Education, Studies in Science Education,* and *The Journal of College Science Teaching*. She regularly reviews for publications of the American Educational Research Association.

RONALD D. ANDERSON

PERSONAL DATA
Birthdate - August 25, 1937; U.S. Citizen; married, three children Biographical reference - Who's Who in America

PRESENT ADDRESSES
(home) 4800 North Creek Road (719) 485-1113
Beulah, Colorado 81023
(business) C.B. 249, School of Education (303) 492-7738
University of Colorado
Boulder, Colorado 80309

PROFESSIONAL EXPERIENCES
1978- University of Colorado Boulder, CO Professor
1989-90 National Science Found. Washington DC Program Director

1972-78 University of Colorado Boulder, CO Associate Dean 1971-72 University of Colorado Boulder, CO Professor 1968-71 University of Colorado Boulder, CO Associate Professor
1965-68 University of Colorado Boulder, CO Assistant Professor
1964-65 Kansas State University Manhattan, KS Assistant Professor
1961-64 University of Wisconsin Madison, WI Teaching Assistant
1959-61 East High School Duluth, MN Teacher

CURRENT RESEARCH

Currently completing writing based on case studies done as part of a research contract ($689,936) with the U.S. Department of Education. This project addressed science, mathematics and higher order thinking across the disciplines. Major aspects included case studies of successful reform endeavors in selected schools across the country, a national conference, and a variety of practical products for practitioners and policymakers. Have initiated writing on the interface of science teaching and religion.

SELECTED PROFESSIONAL ORGANIZATION ROLES

American Association for the Advancement of Science - fellow, Chair, Education section, 1998-99
Member, Association Council, 1999-2000
American Educational Research Association - member Association for Supervision and Curriculum Development - member Association for the Education of Teachers in Science - President, 1972-73 National Association for Research in Science Teaching - President, 1975-76
National Science Teachers Association - member

ACADEMIC HISTORY

University of Wisconsin Madison, WI 1961-64, Ph.D. (Education)
University of Wisconsin Madison, WI 1957-59, B.S. (Physics)
Wisconsin State College Superior, WI 1955-57

AWARDS

Fulbright Senior Research Award to conduct research in Germany in 1986-87 Outstanding Paper Award, 1980 Annual Convention of the National Association for Research in Science Teaching

SELECTED GUEST LECTURES AT ACADEMIC INSTITUTIONS

Twente University, the Netherlands, October 15, 1996 Free University of Amsterdam, the Netherlands, October 16, 1996 Miami University, Oxford, OH, October 6, 1994. New York Academy of Sciences, New York City, May 4, 1990 Hebrew University, Jerusalem, Israel, December 10, 1986 Weizmann Institute of Science, Rehovot, Israel, December 8, 1986 The University of Utrecht, the Netherlands, November 26, 1986 SLO, Enschede, the Netherlands, November 24, 1986 CENEMEC, Caracas, Venezuela, February 12, 1986 Southern Illinois University, Edwardsville, IL, August, 1985 Kansas State University, Manhattan, KS, June 28, 1985

SELECTED EVALUATION EXPERIENCE

Evaluator, Chemistry for the Information Age (NSF-funded), U. of No. CO, 1995-99
Evaluator, Project Learn (NSF-funded), Nat. Ctr. for Atmospheric Research, 1991-4
Evaluator, (U.S.D. of Ed.-funded project), Colorado Alliance for Science, 1991-3
Evaluator, American Indian Science and Engineering Society projects, 1987-88.
Evaluation consultant, Wyoming Department of Education, 1984. Evaluator, Science World, Wisconsin Department of Public Instruction, 1983.
Conducted an evaluation of the English Language Proficiency Act Program for the Colorado Department of Education and Colorado Legislature,
1982 and 1983.

SELECTED PUBLICATIONS

Anderson, R.D. ìInquiry in the Everyday World of Schools,î ENC Focus, 6(2):16-17, 1999.

Anderson, R.D. (1998). The Research on Teaching as Inquiry. (A commissioned paper prepared for the Center for Science, Mathematics and Engineering Education at the National Research Council).

Anderson, Ronald D. "The science methods course in the context of the total teacher education experience," Journal of Science Teacher Education, 8(4): 269-282, 1997.

Ronald D. Anderson. Study of Curriculum Reform. Washington, DC: U.S. Dept. of Education, 106 pages. 1996.

Anderson, Ronald D. "Curriculum Reform: Dilemmas and Promise." Phi Delta Kappan, Vol. 77, No. 1, pp. 33-36, September 1995.

Hameyer, Uwe, Jan van den Akker, Ronald D. Anderson, and Mats Ekholm. Portraits of Productive Schools: An International Study of Institutionalizing Activity-based Practices in Elementary Science. Albany, NY: SUNY Press. 1995.

Ronald D. Anderson and Harold Pratt. Local Leadership for Science Education Reform. Dubuque, IA: National Science Supervisors Association/Kendall-Hunt. 1995.

Ronald D. Anderson, et al., Issues of Curriculum Reform in Science, Mathematics and Higher Order Thinking Across the Disciplines. Washington, DC: U.S. Dept. of Education, 144 pages. 1994.

Ronald D. Anderson & Carole Mitchener, "Research on Science Teacher Education," in D. Gabel (ed.), Handbook of Research on Science Teaching and Learning, New York: Macmillan, 1994.

Ronald D. Anderson, "Policy decisions on improving science education: A cost-effectiveness analysis," Journal of Research in Science Teaching, Vol. 27, No. 6, pp. 553-574, 1990.

Carole P. Mitchener and Ronald D. Anderson, "Teachers' Perspective: Developing and Implementing an STS Curriculum," Journal of Research in Science Teaching, Vol. 26, No. 4, pp. 351-369, 1989.

Ronald D. Anderson, et. al. "Science Education: A Meta-Analysis of Major Questions," Journal of Research in Science Teaching, Vol. 20, No.5, pp. 379-385, May 1983.

C.V. OF M.B. OGUNNIYI

>Meshach Ogunniyi was born in Ilorin, Nigeria on 20th February, 1944. He received his primary, high school and university education in Nigeria with a second class upper division in 1973, being one of the only two final year
students in
>science/science education with that degree classification
in
>that year in both the Faculties of Science and
Education.He
>won the highly competitive scholarship of the the then Nothern Region scholarship for his high school education
and
>the Federal Government of Nigeria scholarship for his undergraduate education.He taught Modern Mathematics, Chemistry, General Science, Fine Art and Religious Knowledge for two years(1968/9) with his Higher School Certificate Diploma.

>Because of his outstanding performance in his undergraduate studies he was recalled back by the university as an instructor and and research assistant to the Dean of Education having just taught science courses for a
year(June
>1973-June 1974). He lectured genetics, psychology and a science education course to undergraduates as well as assisted the Dean in a large scale research study(August 1974 -December 1974).During the same period he received the Federal Government Scholarship for a Masters in Science Education and commenced his graduate study in 1975 under
the
>distinguished scholar, Professor Milton O. Pella at the University of Wisconsin, Madison and obtained his Master degree at the end of the same year. For his outstanding performance, the Federal Government of Nigeria awarded him another scholarship to do his Phd studies. He obtained his Phd degree in December 1977 and was appointed Lecturer 2 in Chemistry Education at the University of Ibadan, Nigeria.

>It was at the University of Ibadan that his research
work
>really blossomed, a reason for his accelerated promotions. He was promoted Lecturer 1 in 1980, Senior Lecturer 1982, skipped Associate Professorship and was promoted full Professor of Science Education in 1987. During the period
he
>designed several undergraduate and graduate courses in Science Education(including research & statistical methods,
history and philosophy of science etc.) and supervised well over
>50 Diploma, Masters and Phd students. He was Head of Science and Mathematics Education Unit of the Department of
Teacher Education (1986-1990), student adviser(1978-1989), Deputy Dean of Education(1981-1983), representative of the Faculty of Education, Senate Curriculum
Committee(1986-1990),
>teaching practice coordinator, graduate program
co-ordinator and served on several other Faculty of education and university
>committees and was Chairperson of a Primary School Board.
He
>was Contributing Editor to Science Education for the West African Sub-region between 1981 and 1993, Associate
Editor,
>African Journal of Education Research, 1980-1993, Member of the National Panel on Science in the Mother Tongue, Director, Scientific/Technological Literacy Research Project, Federal Ministry of Education, Nigeria(1990), Member of the Accreditation Panel, National Universities Commisssion(1990),

and consutinting editor to several publishing houses and scholarly science and technological education journals in West Africa and member of various professional bodies.

>Between 1991 and1994 he taught at the University of Botswana and supervised several BEd and Masters Theses.He was the Founding Editor of the Southern Africa Journal of Mathematics and Science Education(1993-1994) based at the
University of Botswana. In 1994 he was appointed the first Director and UNESCO Chairholder in Science and Mathematics
Education for the Southern African Sub-region located in the
>School of Science and Mathematics Education University of
the
Western Cape (UWC). In 1999 he was elected Director of
>Research &Teaching Support, Faculty of Education(UWC). In 1996, he was elected the Founding Editor of the Journal of
the
>Southern African Association for Research in Mathematics
and
>Science Education(1996-). He has received distinguished
national and international awards (including the competive West African Anglophone Research Consortium Award ,1981-1986, British Council Visiting Scholar to the U.K. 1983/84 and 1991).
His Primary Science Series(1990) was rated top three in Nigeria by the World Bank Book Support Project.

>Meshach Ogunniyi has published quite extensively in scholary journals and has written more than a dozen books for the primary, secondary and tertiary levels.His
studies on the impact of traditional African cosmology on school science which began in 1980 has taken an international dimension(eg. see Ogunniyi, et.al.,1995, JRST). His periodic reviews of
>the status of science education in Africa over the past
four
>decades are widely read by the science education community.His his research interest is in the area of scientific literacy, sociocultural issues in science education, diagnosis and remediation of learning difficulties among
>science students at all levels of education, particularly
at
>the interphase between primary and high school and between high school and the university and also science teachers' instructional practices.He organized the first
International
>Conference on Public Understanding of Science and Technology in Southern Africa. Presently, he is co-ordinating a national assessment research on grades 7-9 students' achievement in science.

>He has a wide range of other interests, including, long distance running, soccer, table tennis, astronomy and classical music.He is married with three children and is an elder at a local Baptist Church in Cape Town.

Curriculum Vitae for Professor Robert Yager

EDUCATION

B.A., University of Northern Iowa (Biology), 1950
M.S., The University of Iowa (Plant Physiology), 1953
Ph.D., The University of Iowa (Plant Physiology), 1957

EMPLOYMENT

Laboratory Assistant, University of Northern Iowa, 1948-50
High School Science Teacher, Chapin Consolidated (Iowa), 1950-52
Life Science Instructor, The University of Iowa, 1952-53
Basic Education Instructor, U.S. Army, Frankfurt, Germany, 1953-55
Teaching Assistant in Botany, The University of Iowa, 1955-56
Instructor in Science Education and Acting Head of Science, University High School, The University of Iowa, 1956-57
Assistant Professor, The University of Iowa, 1957-63
Associate Professor, The University of Iowa, 1963-67
Professor, The University of Iowa, 1967-present

AWARDS

Special Recognition for Leadership, National Association of Biology Teachers, October, 1971
Centennial Citation, Iowa Academy of Science, April, 1975
Outstanding Service to Science Teaching Award, Iowa Science Teachers Section, March, 1977
Robert H. Carleton Award for National Leadership in the Field of Science Education, National Science Teachers Association, March, 1977
Alumni Achievement Award, University of Northern Iowa, October, 1982
Distinguished Service to Science Education, National Science Teachers Association, March, 1986
Presidential Award for 1990, National Science Supervisors Association, April, 1990
Governor's Science Medal for Science Teaching, May, 1990
Honorary Membership, National Association of Biology Teachers (highest award given), November, 1991
Distinguished Service Award, American Council on Education, March, 1993
Distinguished Service in the Reform of Science Education in Korea, Korean Educational Development Institute, May, 1997
Distinguished Service Award, International Council of Associations for Science Education, May, 1997
Jose Vasconcelos World Award of Education., of the World Cultural Council, New Zealand, November, 1998
Distinguished Lifetime Service Award, Iowa Mathematics Science Coalition, August, 1999

PROFESSIONAL ACTIVITIES

Chair for 100 Ph.D. Dissertations 1958-present
Chair for 173 M.S. Committees, 1958-present

President, School Science and Mathematics Association, 1969-70
President, National Association of Biology Teachers, 1970-71
President, Association for the Education of Teachers in Science, 1973-74
President, National Association for Research in Science Teaching, 1974-75
Director, National Science Foundation Study of Status of Graduate Programs in Science Education, 1979-81
Consultant, COMP Tests, and General College Aptitude, American College Testing, 1979-1985
Director, NSTA-ERIC/SMEAC Study of Accomplishments and Needs of Science Educ. in the U.S., 1980-81
Chair, Section Q, American Association for the Advancement of Science, 1981-84
President, National Science Teachers Association, 1982-83
Commissioner, Science Manpower Commission, AAAS, 1982-85
Chair, National Science Teacher's Association's Search for Excellence Committee, 1983-86
Chair, Iowa Science Foundation, 1987-90
Chair, Adaptation Team, SciencePlus, 1988-1991
Associate, Center for Educational Competitiveness, Washington, DC, 1989-2000
President, National Association for Science, Technology and Society, 1992-93, 1996-98
Chair, Science Communication and Education Committee, Pacific Science Association, 1992-present

MAJOR ACTIVITIES FOR IMPROVING K-12 SCIENCE TEACHING

National Science Foundation Institutes for K-12 Science Teachers (40 awards)

National Science Education Project Designed to Reform Science Teacher Education

PUBLICATION RECORD

Type	Number	Date(s)
Plant Physiology Research	13	1957-68
Improving SchoolScience	58	1966-76
Staff Development Evaluation	65	1971-83
Research Related to Iowa Chautauqua and Funded Staff Development	163	1983-89
Results of Chautauqua, SS&C, and Other Staff Development	224	1989-98

RECENT PUBLICATIONS

Liu, C. T., & Yager, R. E. (1997). The Iowa scope, sequence, and coordination project: A middle school science reform program approved by the National Diffusion Network. Research in Middle Level Education Quarterly, 20(4), 77-105.

University of Missouri

Travel Expense Voucher

Department make photocopy for your records,- mail original copy to Accounting.

Payable To	Federal ID Number	Trip Number	Purpose of Trip
Mail Check To (Campus Address)		Date Submitted	
		Check Dist.	Payment Desc.: Travel -

Place Bar Code Number Here (For Accounting Purposes Only)

DATE	DESTINATION		BREAK-FAST	LUNCH	DINNER	LODG-ING	OTHER		TOTAL FOR THE DAY
	FROM	TO					EXPLANATION	AMOUNT	

Trip Related Direct Billing Information

(For informational purposes only. List travel related expenses, such as airfare, that were billed directly to a University Corporate Card Account.)

Description of Charge	Amount

Comments (Use to provide additional comments related to the trip such as foreign currency conversion rates, names of meal guests, definitions of acronyms, etc.)

Used Official Car Number	Used Personal Car _____ miles at _____ cents per mile = Auto Allowance	
Department Charged	**Total Amount**	

I certify that the above claim is correct and just, that no part of the same has been paid, that the above expense was necessary to the business of the University, that I have made payment therefor and that I have not been nor will be reimbursed herefor from any other source.

Signature	Signature (Dean or Director)
Title	Ext. & Footings Correct / Approved (Fiscal) / Voucher Number

Account Name	11 Digit FRS Account Number
APPROVED FOR PAYMENT	Date Approved
Signature (Authorized Representative)	

Amount	MoCode	PSAccount	Fund	DeptID	Program	Class	BP	Project/Grant	Bus. Unit

UM Form 11 (JUL 01) 7/23/01

☐ Accounting ☐ Department

TRAVEL 505 Allowable Expenses
Revised 08/24/00

REIMBURSEMENT

Accountable Plan Rules

The University has an accountable plan that allows it to reimburse employees for authorized business expenses with no effect on compensation. Under this plan, the employee must:

(a) Have incurred travel expenses while performing services for the University,
(b) Properly account for the expenses within 60 days after the expenses are paid or incurred,
(c) Return any excess reimbursement or allowance within a reasonable period of time. A reasonable period of time is defined as within 120 days after the expense is paid or incurred.

Failure to comply with the above stated rules may result in any excess cash payments being deducted from payroll earnings or undocumented reimbursements being added to taxable compensation.

Staff Members

Reimbursement is made for actual lodging, meal and incidental expenses of a reasonable nature when essential to the transaction of University business.

Non-Staff Members

Reimbursement of expenses for non-staff members is not made except when it is necessary and to the benefit of the University, and is limited to actual lodging, meal and incidental expenses of a reasonable nature. The name, title and represented institution or organization of any guest must be listed on the Travel Expense Voucher.

Advance reimbursement of travel expenses charged to personal or corporate credit cards:

At the discretion of each campus, reimbursement of transportation and meeting registration expenses charged to personal or corporate credit cards may be made in advance of the date that the travel/meeting occurs. The responsibility for documenting the business purpose of the reimbursement is with the traveler, the responsibility for maintaining the required supporting documentation is with the campus accounting offices; and the responsibility for monitoring that the travel actually takes place and for obtaining refunds from the traveler is at the department level.

Documentation of travel expenses paid directly by the University:

Documentation of the business purpose of travel expenses paid directly by the University is the responsibility of the traveler and the traveler's home department. If the payment is made by voucher, documentation should be on the voucher. Airfare paid by the University should be documented and maintained in the home department. To comply with accountable plan rules, documentation should include the amount, date, place and business purpose.

LODGING

Reasonable and necessary amounts are allowed for lodging. When two or more staff share the same room, the total claimed for reimbursement must not exceed the total paid for the room.

A receipted, itemized statement furnished by the hotel or motel is required for all lodging expenses. Summary statements provided by credit card companies will not be accepted as justification for reimbursement.

NOTE: Many hotels and motels offer a discount if the facility is informed the staff member represents the University. Information on these facilities, as well as other travel information, is available online at: http://www.system.missouri.edu/uminfo/trv/travel.

MEALS

For overnight travel **within the U.S.**, the meal expense allowance is not to exceed $42.00 per day for three meals, including tips. If fewer than 3 meals per day are subject to allowance, amounts (including tips) should not exceed the maximum reimbursement for each meal:

Breakfast	$10.00
Lunch	$10.50
Dinner	$21.50

Full reimbursement in excess of the maximum amount per meal is allowed when guests of the University are involved. Prescribed maximums are not to be treated collectively as per diem allowances nor are they to be used individually without regard to the actual and necessary expenses. If actual expenses are less than the prescribed maximum, reimbursement will be allowed only for actual expenses.

For travel **outside the U.S. and Canada**, reimbursement is allowed for meal expenses at a rate not to exceed that prescribed by the U.S. Department of State Standardized Regulations (Section 925) for "Meals and Incidental Expenses (M&IE)." This information can be accessed online at http://www.gsa.gov/travel.htm. These rates shall be considered maximums for the locations specified in the Standardized Regulations and the monthly bulletin which updates them. Reimbursement will be made for actual costs up to the published daily maximums.

Receipts are required for any meal in excess of $75.

Reimbursement for Meals When Traveling Overnight

All meals are reimbursable within the above guidelines.

Reimbursement for Meals When No Overnight Travel is Involved

Meals are reimbursable under the above guidelines only when they are part of a meeting or activity including other individuals to discuss University business. If the meal is part of a group meal or organized banquet where each participant pays individually, the meal is reimbursable under the above guidelines as long as the travel voucher includes an explanation as to the business purpose of the meal and the other individuals or group present. Meals eaten alone are not reimbursable.

OTHER EXPENSES

Reimbursements will be made for other expenses under the following circumstances:

* Telephone - Expenses incurred for official business.

* Miscellaneous Transportation & Related Expenses - When necessary to carry out purpose of trip.

* Registration or Other Meeting Expenses - When necessary to carry out purpose of trip.

EXPENSES CHARGED TO SPONSORED GIFTS, GRANTS OR CONTRACTS

Reimbursement of expenses to be charged to sponsored gifts, grants or contracts made to the University for research, instruction, or other purposes must be in full compliance with the specific terms and instructions of the gift, grant or contract as well as this policy. In the event a gift, grant or contract specifically provides for special arrangements for accountability of travel expenses, this fact must be noted on the Travel Expense Voucher.

REQUESTING REIMBURSEMENT

All requests for reimbursement of travel expenses must be made on a Travel Expense Voucher (UMUW Form 11).

The Travel Expense Voucher must be signed by the employee and approved by the administrative official responsible for the funds from which the expenses are being paid. In no case should an employee approve his own voucher. Vouchers for such officials must be approved by an administrative superior.

Itemized receipts are required to be attached to the Travel Expense Voucher for all expenditures for lodging and any other expenses in excess of $75.