



EDUCATION:

- 2005 Program Evaluation Certificate, University of Washington
- 1991 Ph.D., Curriculum and Instruction, Science Education, University of Washington.
Dissertation Topic: "The Effect of Pre-Activity Instruction to Parents on Their Questioning Behavior and the Learning Outcomes of Their Children"
- 1977 M.Ed., General Science, Environmental Education emphasis. Western Washington University
- 1971 BA, Psychology, with Secondary Teaching Certificate. University of Washington, Seattle, WA

EMPLOYMENT:

- 1996-Present President. SOUNDVIEW EVALUATION & RESEARCH.
- 2000-2004 Research Assistant Professor, University of Washington, Bothell.
- 1996-2000 Director, Educational Leadership in Mathematics and Science Program: University of Washington, College of Education, Seattle, WA.
- 1996-2000 Washington Coordinator. Science and Mathematics Consortium for Northwest Schools
- 1990-1995 Director, Teacher Educator's Network. Association of Science-Technology Centers, Washington, DC.
- 1978-1990 Manager, Education and Teacher Training and Marine Education Project-ORCA. Pacific Science Center, Seattle, WA
- 1972-1978 Teacher, Lake Washington School District,

PROFESSIONAL ENDEAVORS: EVALUATION PROJECTS AND REPORTS

- 2007 Seattle Aquarium Interpreter-Volunteers: Personalizing the Visit. Co-authored report with David Plude.
- 2006 Evaluation of COSEE-OLC. An NSF-funded project for creating learning communities among scientists, educators, and the public about ocean issues.
- 2006 Family Science 2002-2006: Program Findings and Lessons Learned. A report to the Institute for Systems Biology on their NSF-funded Family Science project.
- 2006 Explore the Beach 2006: An evaluation of student learning at the beach. Co-authored with Janice Mathisen for Seattle Aquarium and the Russell Foundation.
- 2006 Windows On Washington Waters: Front End Evaluation — A report to the Seattle Aquarium for the preparation of their new WOWW exhibit
- 2006 Asian Forest: A Shrine for Immersion, Not Just For Looking. An evaluation of the Asian

- Forest Sanctuary exhibit at the Point Defiance Zoo and Aquarium.
- 2006 Citizen Science 2006. An evaluation of the modified student research program.
- 2005 Family and Community Science 2005: Exploring Approaches to Support Communities and Parents in Helping Students Achieve in Science—a report for the Institute of Systems Biology Family Science project.
- 2005 Aquarium Videos: Unwatched, but Appreciated — an evaluation of visitor use of perspectives toward videos in the exhibit halls.
- 2004 Citizen Scientist Project 2004 – an investigatory project of the Seattle Aquarium for the Seahurst Beach Rehabilitation project
- 2004 HHMI “Sound Science Project”2004 The Impact on Student Learning, Teachers’ Understanding of Ecosystems Concepts, and Parent Involvement— an evaluation for the Seattle Aquarium’s Howard Hughes Medical Institute project
- 2004 Family Science Evaluation 2004— an evaluation of the Family Science Program at the Center for Inquiry Science, Institute for Systems Biology
- 2004 Do No Harm Save My Children —an evaluation of an Environmental Science Center project, Burien
- 2004 Explore the Beach 2004—an evaluation of a Russell Family Foundation project of the Seattle Aquarium
- 2004 POWERFUL CHOICES FOR THE ENVIRONMENT EVALUATION 2004- - report for Puget Sound Energy and Project Partners
- 2003 Powerful Choices for the Environment A Preliminary Examination of Program Impacts—evaluation report for Puget Sound Energy
- 2003 Sound Science 2003: The Impact of the HHNI “Sound Science Project” on Teachers and Student Learning—evaluation report of the Seattle Aquarium’s Howard Hughes Project for 2003
- 2003 Evaluation of Family Science 2002-2003 — evaluation of the NSF-funded Family Science Project
- 2002 Sound Science — Evaluation of an Effort to “Localize” a Curriculum for Northwest Students—evaluation report of the Seattle Aquarium’s Howard Hughes Project
- 2002 Family Science Evaluation Report 2002 – evaluation of the NSF-funded Family Science Project
- 2002 Life on the Edge at The Seattle Aquarium – evaluation of the touch and talk exhibit
- 2001 Mathematics in Museums – case studies and evaluation of math experiences in informal learning setting. Association of Science-Technology Centers, funded by NSF
- 1997 Science Service Learning - What Students Think, evaluation report for the National Service and NSF grants
- 1996 An Evaluation of the 1995 SEP Program, Evaluation Report for Howard Hughes Medical Institute grants program.

GRANTS RECEIVED

Foundations

Verizon Foundation ROBOLAB- A Project to Improve Mathematics, Science and Technology Literacy 2002

Carnegie Corporation Grant: Capacity Building in Science Museums 1992-1995

Annenberg/CPB Math and Science Project Grant: Informal Science Educators Network 1994-1996

Eisenhower Higher Education Grants:

- 1999-00 - *Improving Student Achievement*
- 1998-99 - *Communities and Classroom Assessments*
- 1997-98 - *Creating Leaders, Learning Communities*

National Science Foundation

- 1990-1995 Teacher Enhancement Grant: *Institute for Teacher Educators at Science Centers*
- SGER Grant: *Research on School/Science Center Linkages* 1994-1995
- Planning Grant for *Museum-School Partnerships Initiative* 1994-1995

Department of Energy

- *Informal Science Educator's Network Project* 1995 – 1996

Other Federal Grants

- SMCNWS Staff Development Support Funds, *Performance Assessment, OARS* 1999-00
- SeaGrant Marine Education, Project ORCA (several) 1979-1986

PUBLICATIONS

- 2001 "Hands-On Mathematics: Taking the Next Step", - article for *Dimensions*, journal for the Association of Science-Technology Centers
- 1998-2003 [Online Assessment Resources](http://www.depts.washington.edu/oars/). URL: www.depts.washington.edu/oars/
- 1996 "Professional Development for Informal Science Teacher Educators," [Science Education International](#), Spring 1996
- 1988 [Fishing in the Pacific: Books 1-4](#) (co-developer). Curriculum Research & Development Group for the Pacific Circle Consortium, University of Hawaii
- 1988 "The Relationship of NTE Exams to Teacher Educators Admission, Performance, and Employment." ERIC SP 029 905
- 1987 "Predictive Validity of GPA, CAT, and NTE Science Specialty Tests on Scores of Performance Based Student Teaching Evaluation Instrument." ERIC ED 282761
- 1986 "Effectiveness of a Narrow Field Academic Major." ERIC ED 270394, SP 027539
- 1981 "Marine Education: It's the Water and A Lot More." [Washington Science Teachers' Association Journal](#). January
- 1981 "Achieving Marine Literacy: Project ORCA." [Clearing: Creative Resources in Environmental Education](#). No. 17, January.

- 1981 "Marshes, Estuaries, and Wetlands." Clearing: Creative Resources in Environmental Education. No. 19, June.
- 1980-1981 Ocean Related Curriculum Activities (ORCA). Pacific Science Center and Washington Sea Grant:
- Marshes, Estuaries and Wetlands
 - Squalls on Nisqually: A Simulation Game
 - Tides
 - Beaches
- 1979 "Washington State Marine Education Needs Assessment and Priorities Report." Unpublished document for the Office of the Superintendent of Public Instruction, Washington Sea Grant, and Pacific Science Center.
- 1985-1987 Executive Producer (Video):
- U.W.T.A.S. Videotapes of Exemplary Student Teachers (7 individual videotapes in elementary and secondary mathematics, science, and language arts). University of Washington, Teacher Education Research Center.

CONFERENCES, INSTITUTES, WORKSHOPS and PRESENTATIONS:

- 2007 Accepted: Sound to Ocean Science, a program for teacher's, parent's and students a poster for the 2007 annual conference for the American Zoological Association, Philadelphia, September 18—21, 2007
- 2005 Sound Science, Do They Remember? —a poster for the 2005 annual conference for the American Zoological Association, Chicago, September 14—18, 2005
- 2004 Inquiry-Based Science: the wave of our future encouraging knowledge through self discovery —workshop for the 2004 annual conference for the American Zoological Association, New Orleans, September 18 – 24, 2004
- 2004 What Is? Sound Science – a poster for the 2004 annual conference for the American Zoological Association, New Orleans, September 18 – 24, 2004
- 2003 Robotic Tools for Thinking about Middle School Math and Science, June 2003. National Educational Computing Conference, Seattle, WA
- 2003 Robotic Tools for Thinking about Middle School Math and Science, April 2003. Northwest Council for Computer Education Conference, Portland, WA
- 2000 The Change Game II, workshop for Puget Sound Science Supervisors, May 2000
- 2000 "TIMSS, NAEP and science achievement" Washington AERA conference, March 2000
- 2000 "Educational Leadership In Math and Science" – panel member discussant on professional development for teachers involved in business internships, Washington AERA conference, March 2000
- 2000 "OARS, For Teachers Up a Creek" – presentation at WA ASCD, February 2000
- 2000 "Mathematics in Science Centers" – presentation at ASTC Annual Conference 1999
- 1998 " Presentation on 12th grade mathematics achievement issues from the Third International

- Mathematics and Science Study," UW Math Day, March 23, 1998
- 1998 " Presentation on student achievement issues from the Third International Mathematics and Science Study," Regional Conference of the Science and Mathematics Consortium for Northwest Schools, February, 1998
- 1998 " Presentation on student achievement issues from the Third International Mathematics and Science Study," Washington ASCD, February, 1998
- 1997 " Presentation on education policy issues from the Third International Mathematics and Science Study," Washington Association of School Administrators Annual Conference, October 1997
- 1997 " Presentation on equity issues from the Third International Mathematics and Science Study," MESA State Advisory Board, November 11, 1997
- 1996 "Making Connections: An Inquiry into Electricity," workshop for teachers, sponsored by Snohomish PUD, Everett, WA. July 15-19, 1996.
- 1995 Conference presentation on Museum-School Partnerships, Washington DC.
- 1995 Inquiry Institute for Los Angeles teachers, Los Angeles, CA. July 1995.
- 1994 "Implementing Inquiry." Fourth Institute for Teacher Educators in Science Centers. Durham, NC. September 8-12, 1994.
- 1993 "Focus on Inquiry." Institute for Teacher Educators at Science Centers. Portland, OR. August 8-21,
- 1993 "The Effect of Instruction to Parents on Questioning and the Learning Outcomes of Their Children During a Family Science Class." Presentation at the annual conference of the National Association for Research in Science Teaching, Atlanta, GA. April 15-19, 1993.
- 1993 "Preservice Teacher Education in Science Centers." Presentation at the annual conference of the National Association for Research in Science Teaching, Atlanta, GA. April 15-19, 1993.
- 1992 Keynote Address - "Science as Inquiry, Science as Play." Teacher Inservice Program, Cleveland Health Museum, October 8, 1992.
- 1992 "Leadership and Renewal." Institute for Teacher Educators at Science Centers. Philadelphia, PA. August 9-21, 1992
- 1991 "Leadership and Renewal." Institute for Teacher Educators at Science Centers. San Francisco and Monterey, CA. August 18-31, 1991.
- 1990 "University Science Center Collaboration: Sharing Common Agendas." Presentation at the annual conference of the National Science Teachers Association, April.
- 1989 "Saturation Education: The Status of K-12 Marine Education" paper presented at Oceans '89 An International Conference Addressing the Global Ocean, Seattle, September.
- 1987 "The Relationship of NTE Exams to Teacher Education Admission, Performance and Employment." Paper presented at the annual meeting of the American Association of Colleges for Teacher Education. New Orleans, February 16-20.
- 1986 "Effectiveness of a Narrow Field Academic Major in Preparing Students for a Broader Context Teaching Assignment. Paper presented at the National Association for Research in Science Teaching annual conference, San Francisco, March.
- 1985 "A Validity Study of NTE General Knowledge Components as a Predictive Instrument for

Successful Student Teaching." Paper presented at the Northwest Association of Teacher Educators, April.

1985 "University of Washington Teacher Assessment System." Presentation at the Northwest Association of Teacher Educators, April 14, 1985.

PROFESSIONAL ACTIVITIES AND ORGANIZATIONS:

2004 National Advisory Committee, Mystery Solved, an NSF-funded mathematics project for North Carolina Museum of Life and Science

2002- 2004 National Advisory Committee, Math Momentum, an NSF –funded project for TERC and ASTC

2002-2003 Executive Council, University of Washington, Bothell

2001-2002 IRSC, University of Washington, Bothell

2002-2003 NIH SEPA Grants Reviewer

2001-2002 Children's Museum in Snohomish County – grant and program development

1997 Valerie Chabot Scholarship Committee, College of Education, University of Washington

1997 EPDP grant development project for ESD 189 Consortium, Mount Vernon,

1994-1997 Section Editor, Non-formal and Informal Science Education, *Science Education International* journal

1994-1996 Advisory Committee, "Special Effects," WGBH and the California Museum of Science and Industry

1994-1996 National Science Teachers Association Task Force on Informal Science Education

1994 Advisory Committee, SET Careers Outreach Project, AAAS

1993-1994 Advisory Committee, Computer Access to Science Literacy, University of Maryland, Baltimore

1991-1993 Advisory Committee, Science Quest, Milwaukee Public Museum

1989 National Science Teachers Association (NSTA) Hospitality Committee Chair, Annual Conference, Seattle, WA. April.

1982-1984 Member Board of Directors, National Marine Education Association (NMEA).

1981-1982 President, Northwest Association Marine Educators (NAME).

1982-1987 Delegate, Pacific Circle Consortium. The Ocean Project.

1980-1981 Interagency Committee on Wetlands Inventory for King County.

1980 NAME Chapter Organization Steering Committee