

REBEKAH K. NIX, PH.D.

Teacher Development Center, School of Interdisciplinary Studies
The University of Texas at Dallas
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Educational History

- Doctor of Philosophy (April 1, 2003), Curtin University of Technology, Perth, Australia, Science Education. *Virtual field trips: Using information technology to create an integrated science learning environment.*
- Master of Arts in Teaching (May 17, 1998), University of Texas at Dallas, Richardson, Texas, Science Education.
- Bachelor of Science (December 19, 1986), University of Texas at Dallas, Richardson, Texas, Geosciences.

Professional Experience

University of Texas at Dallas (1999–present)

Richardson, Texas; providing high-quality educational and research programs driven by the development, diffusion, understanding and management of advanced technology

Senior Lecturer. Hired by Director of Teacher Development program to teach Educational Technology course based on principles of use rather than details of hardware/software. Produced and supported online coursework. Expanded duties when hired full-time to include grant writing and research development. *Educational Assistant.* Recruited by Dean of Natural Science and Mathematics to investigate options and develop strategy for migrating department courses to remote delivery using the World Wide Web; Departmental Liaison addressing faculty/staff technology support issues. Created and maintained websites for the School of Natural Sciences and Mathematics; the Global Environmental Change and Melville Research Vessel Cruise virtual field trips; developed and produced Science Education program brochure and Science/ Mathematics Education department website. *Teaching Assistant.* Worked with Dean of General Studies to facilitate development of a distance learning program based on Math Methods course delivered using the latest classroom presentation technologies. Recommended development models for courses in Chemistry, Physics and Science Education, including content and research.

MultiMedia Access Corporation (MMAC) (1994–January 1999)

Dallas, Texas; manufacturers of innovative video communications systems

Corporate Marketing/Investor Relations. Recruited as Manager of Graphics and Publications to design and maintain corporate-level materials, as well as initiate marketing support programs to launch new products. Emerging technologies required a strong educational component along with persuasive application and technical information. Focus shifted to corporate research and development to support Initial Public Offering and meet on-going Securities Exchange Commission requirements.

United States Data Corporation (USDATA) (1991–May 1994)

Richardson, Texas; manufacturers of real-time automation software and auto id systems

Marketing Communications Coordinator. Joined international marketing department to develop marketing support programs to launch new products and support existing product line. Interfaced with engineering, technical support, training and sales to produce materials with consistent themes, messages, and style to promote corporate image. Established department-wide processes that streamlined production, external printing, archiving, distribution and maintenance of materials.

Visual Information Technologies, Inc. (VITec) (1988–October 1991)

Plano, Texas; manufacturers of imaging hardware, software and applications

Special Projects Documentation Specialist. Hired by Senior Technical Writer on part-time basis to re-design and edit users' guides and technical documentation of software and hardware products. Performance resulted in full-time position in Support Services (training) with responsibility for all technical information in System Integration Products and Services and international standards documents. Provided technical and design support for development of marketing presentations, product literature, catalogs and sales tools.

S. Morrice & Associates, Ltd. (1987–August 1988)

Denver, Colorado; independent international petroleum consulting company

Geological Consultant. Completed two international petroleum prospect development projects including lease and licensing terms, research, field work in Belize and Northern Ireland, data analysis and report generation for commercial and government presentations for investment and educational purposes. Actively involved with the Institute for the Study of Earth and Man (Southern Methodist University) as speaker liaison supporting various international conferences and workshops.

The Container Store (1986–1987)

Dallas, Texas; retail store specializing in storage/organization products

Stock and Display Supervisor. Started as part-time seasonal cashier. Hired as full-time salesperson and stocker. Also performed accounting duties as Transaction Coordinator including opening registers, making change and deposits and completing daily reports. As Stock and Display Supervisor, trained and managed team responsible for store appearance, merchandise from/ to trucks, inventory, and product displays.

Research Interests

Nix's work centers on enhancing learning environments, focusing on information technology and professional development. Recipient of the USDLA Best Practices Gold Award for Distance Learning Teaching Online, she has taught her completely online Educational Technology courses since 2000. She completed her PhD in Science Education on Virtual Field Trips: Using IT to Create an Integrated Science Learning Environment at Curtin University of Technology, where she is an adjunct Research Fellow. Pursuing innovative ideas to merge educational theory and scientific practice through strategic applications of technology, she created MT SCIENCE and a hybrid Teacher Quality program for science teachers called Taking them to the top! Cultivating an ISLE with applications of IT and environmental education. As PI for the MAT-SE Online program award, she created over 10 new 100% online, asynchronous courses. Nix is now investigating how technology impacts achievement in terms of neurocognitive science.

Professional Memberships

- UTTC Diamond Certified Online Instructor, UT-System TeleCampus (2009)
- United States Distance Learning Association (2004–2006)
- Project WILD Facilitator Certification (2004)
- Project WILD Aquatic Facilitator Certification (2004)
- American Educational Research Association, member (2002–present)
- Southwest Association for Educators of Teachers of Science, member (2002–2005)
- Technology Leadership Academy, member (2001–2004)
- Australian Association for Research in Education, member (2001–2003)
- Geological Society of America/National Association of Geoscience Teachers (2000)
- National Association for Research in Science Teaching, member (1999–2005)
- Sigma Xi Research Society, member (1999–2002)
- GLOBE Teacher Certificate – Global Learning & Observations to Benefit the Environment (1998)
- Texas Teacher Certificate – High School Science, Composite (1986)

Honors and other Recognitions

- Nominated for UT System Chancellor’s Council 2008 Innovations in Education Award – The University of Texas System, Austin, TX (March 2008).
- Nominated for USDLA 2008 Best Practices in Distance Learning Programming for an Individual Course Award – The United States Distance Learning Association, Boston, MA (January 2008).
- Faculty Spotlight - UT TeleCampus Annual Report 2006 (October 2006).
- Nominated for best published paper award for American Educational Research Association: 2005 Special Interest Group on the Study of Learning Environments (January 2006).
- Received 5-year service award – The University of Texas at Dallas, Richardson, TX (Fall 2005).
- Nominated for the National Association for Research in Science Teaching Outstanding Doctoral Dissertation Award (December 16, 2003).
- Completed 6 hours of integrated science training with Botanical Research Institute of Texas for Trinity River Ecology Workshop (November 15, 2003).

Awards and Fellowships

- Faculty of the Month – National Repository of Online Courses. Monterrey Institute of Technology (December 2007).
- Received UT Library Directors' Award for Excellence in Library Resource Integration – The University of Texas System, Austin, TX (June 2007).
- Received USDLA Best Practices Gold Award for Distance Learning Teaching Online – The United States Distance Learning Association, Boston, MA (May 2007).
- Adjunct Research Fellow – Science and Mathematics Education Centre, Division of Engineering, Science and Computing, Curtin University of Technology, Perth, Australia (February 2005).
- Visiting Fellow – Science and Mathematics Education Centre, Division of Engineering, Science and Computing, Curtin University of Technology, Perth, Australia (September 2003).

Achievements in Original Achievement, Investigation, and Research

PROPOSAL AND GRANT ACTIVITY

- Educational Technology Course Redesign. PI. Awarded University of Texas System TeleCampus, 12 months, \$9352.
- Research Project: Space relations and abstract reasoning online. PI. IRB minimal review approved November 2, 2007.
- Research Project: Educational Technology course redesign for Information Literacy. PI. IRB File Number: 05-39. (September 2005-present).
- Texas Course Redesign Project – Environmental Science Online. PI. Awarded University of Texas System TeleCampus, 12 months, \$2,500.
- Master of Arts in Teaching – Science Education (MAT-SE) Online! PI. Awarded University of Texas System TeleCampus, 12 months, \$79,434.69.
- Taking them to the top 2: Cultivating an integrated science learning environment (ISLE) with applications of information technology and environmental education. Co-PI. Awarded Texas Higher Education Coordinating Board, 17 months, \$80,000.
- Where do we go from here? Submitted by Lakehill Preparatory School for a Toyota Tapestry grant administered by the National Science Teachers' Association, 12 months, \$10,000.
- Advanced Resources for Teaching Science (ARTS) Program. Preproposal submitted to Fund for the Improvement of PostSecondary Education, 36 months, \$196,545.
- Action-Interaction-Reaction: YOU are THE key! PI. Awarded North Texas Clear Air Coalition, April 23 - Sept 10, 2004, \$5,400.
- Taking them to the top: Cultivating an integrated science learning environment (ISLE) with applications of information technology and environmental education. Co-PI. Awarded Texas Higher Education Coordinating Board, 17 months, \$ 79,993.
- Transitions in Teaching: R&D of Educational Models & Systems. Preproposal submitted to National Science Foundation, May 19, 2003, 60 months, \$3,348,326.
- Math and Science Partnership Program. Attended Westat workshop in New Orleans, LA and worked with key personnel to develop plan. Dallas Independent School District submitted proposal to National Science Foundation. Spring 2003.
- TIME (Technology | Information | Methodology | Expectation) for Teaching and Learning. Preproposal submitted to National Science Foundation, October 17, 2002, 3 years, \$483,819.
- MT SCIENCE: Mobile Technology for teaching and learning SCIENCE in the real world. PI. Awarded Technology Infrastructure Board, August, 2002, 12 months, \$50,000.
- Continuing Education for Leaders and Lifelong Learners (CEL3). Preproposal submitted to National Science Foundation, March 15, 2002, 5 years, \$10,000,000.
- Course Development for Online Instruction (ED4372/ED5320). Submitted February 14, 2002 to University of Texas at Dallas Center for Online Learning and Teaching, 3 months, \$3,500.
- MAT-SE Online! A distance learning strand of the Master of Arts in Teaching degree in Science Education. Submitted November 14, 2000 to University of Texas System TeleCampus, 1 year, \$141,054.
- Global Environmental Change. (Big Bend National Park, Texas), Co-instructor/consultant for Woodrow Wilson National Fellowship Foundation/Teacher Outreach grant. July 2000.

AUTHORED BOOKS

Nix, R.K. (2009). Using technology to create an integrated learning environment: How a virtual field trip project bridged the university, field, and school settings through application of information and communication technology. (ISBN: 978-3639208962). Saarbrücken, Germany: VDM Verlag.

Parker, S., & Nix, R. (1994). Sounding the silence or "why people sing in the shower". Dallas, Texas: RNIX Company.

BOOK CHAPTERS

Nix, R.K. (2010). Cultivating constructivist classrooms through evaluation of an Integrated Science Learning Environment. In B.J. Fraser, K.G. Tobin, and C. McRobbie (Eds.), Second international handbook of science education. Dordrecht, The Netherlands: Kluwer.

Nix, R.K., & Fraser, B.J. (2009). Using computer-assisted teaching to promote constructivist practices in teacher education. In B.A. Morris and G.M. Ferguson (Eds.), Computer-Assisted Teaching: New Developments (ISBN: 978-1-60876-855-4). New York: Nova Science Publishers, Inc.

REFEREED JOURNAL ARTICLES

Nix, R.K. & Fraser, B.J. (in review). Using ICT to Promote Constructivist Practice in Teacher Education. Technology, Pedagogy and Education (in review).

Nix, R.K., Fraser, B.J., & Ledbetter, C.E. (2005). Evaluating an integrated science learning environment using the Constructivist Learning Environment Survey (CLES). Learning Environments Research, 8, 109-133.

Nix, R.K. (2003). Virtual field trips: Using information technology to create an integrated science learning environment. Unpublished doctoral thesis, Curtin University of Technology, Perth, Western Australia.

Nix, R. (2000). Science-related virtual field trips on the world wide web. The Texas Science Teacher, 29(1), 18-23.

NON-REFEREED PUBLICATIONS

Educational Technology (2): An Online Course. ED 4372. University of Texas at Dallas, 2008.

(with Ledbetter, C.E.) Science Education Thesis: An Online Course. SCE 8398. University of Texas at Dallas, 2008.

(with Ledbetter, C.E.) Integrated Life Science for Teachers: An Online Course. SCI 5325. University of Texas at Dallas, 2008.

(with Ledbetter, C.E.) Integrated Earth Science for Teachers: An Online Course. SCI 5325. University of Texas at Dallas, 2007.

(with Ledbetter, C.E.) Integrated Physical Science for Teachers: An Online Course. SCI 5325. University of Texas at Dallas, 2007.

Lessons Learned by Leading Researchers in Science and Education: An Online Course. SCE 5330. University of Texas at Dallas, 2006.

Resource Literacy Questionnaires. A series of questionnaires to assess individual student attitudes, efficacy, skills, and perceptions of the learning environment to enable longitudinal evaluation of the MAT-SE Online program. University of Texas at Dallas, 2006-2007.

MAT-SE Online Basics. In MAT-SE Online program organization offered by UTTC. University of Texas at Dallas, 2006.

(with Ledbetter, C.E.) Research Design and Method Tool. In MAT-SE Online program research strand (3 courses) offered by UTTC. University of Texas at Dallas, 2006.

(with Fifer, F.L.) Critical Issues in Science Education: An Online Course. SCE 05-3. University of Texas at Dallas, 2005.

(with Ledbetter, C.E.) Research Design and Methodology for Science Educators: An Online Course. SCE 05-2. University of Texas at Dallas, 2005.

(with Ledbetter, C.E.) Evaluating Research in Science Education: An Online Course. SCE 05-1. University of Texas at Dallas, 2005.

Ledbetter, C., & Nix, R. (2000). Bringing Back Big Bend: Teachers' Adventure to be Shared through Virtual Tour. Dallas Outdoors, 1(5), 9-11.

Nix, R. (1999). ED4372: Educational technology/ED5320: Issues in educational technology. 15-week distance learning course offered by the University of Texas at Dallas through the UT-System TeleCampus. [Online.]

Nix, R. (1999). The field trip milieu: Implications for teacher training in science education. [Online.] Available: http://www.dallas.net/~rnix/ft_milieu_au.html.

REFEREED CONFERENCE PRESENTATIONS AND PAPERS

Nix, R.K. & Blackburn, R.D. (2009, May). Introducing a lifesaver! Basic CPR (Calibrated Peer Review) training. Professional development workshop proposed for the annual Innovations in Online Learning Conference for the University of Texas System TeleCampus. Austin, TX.

Nix, R.K. & Fraser, B.J. (2009, April). Teaching teachers to implement constructivist practices by creating a positive learning environment with information technology. Paper accepted to be presented at the annual meeting of the American Educational Research Association. San Diego, CA.

Nix, R.K., Barksdale, T.A., & Ledbetter, C.E. (2007, November). IFWE Challenge Accepted: New and improved MAT-SE research courses/tools. Poster presented at the 3rd International Forum for Women in eLearning. United States Distance Learning Association, Santa Fe, NM.

Nix, R.K. & Barksdale, T.A. (2007, November). Meeting in the Middle: Ideas for Library Integration/Research Instruction. Poster presented at the 13th Annual Sloan-C International Conference on Online Learning. Orlando, FL.

Nix, R.K. & Barksdale, T.A. (2007, May). Meeting in the Middle: Ideas for Library Integration/Research Instruction. Professional development workshop presented at the annual Innovations in Online Learning Conference for the University of Texas System TeleCampus. Austin, TX.

Nix, R.K. & Ledbetter, C.E. (2007, May). Form Following Function: Moving Online, Improving Onsite. Professional development workshop presented at the annual Innovations in Online Learning Conference for the University of Texas System TeleCampus. Austin, TX.

Nix, R.K. & Ledbetter, C.E. (2006, November). What if Newton Was Alive Today? Probing Approaches for New Views on Old Lessons. Professional development workshop presented at the annual Conference for the Advancement of Science Teaching. Wichita Falls, TX.

Nix, R.K. & Ledbetter, C.E (2006, November). Pond-ering Problem-solving: Incorporating Project WILD and Penny Ante Science into Texas-sized Lessons. Professional development workshop presented at the annual Conference for the Advancement of Science Teaching. Wichita Falls, TX.

Ledbetter, C.E & Nix, R.K. (2006, November). Hot Hands and Cold Fingers: Using Simple Experiments to Understand Balanced Living Systems. Professional development workshop presented at the annual Conference for the Advancement of Science Teaching. Wichita Falls, TX.

Ledbetter, C.E & Nix, R.K. (2006, November). Putting the Cart before the Horse! A New Approach to Making Science Education Research Relevant. Professional development workshop presented at the annual Conference for the Advancement of Science Teaching. Wichita Falls, TX.

Nix, R.K., Fraser, B.J. & Ledbetter, C.E (2006, April). Using science student perceptions of the classroom learning environment to evaluate a professional development program. Paper presented at the annual meeting of the American Educational Research Association. San Francisco, CA.

Nix, R.K. & Ledbetter, C.E. (2005, November). Taking them to the top: Benefits of long-term, sustained professional development. Paper presented at the annual meeting of the School Science and Mathematics Association. Ft. Worth, TX.

Nix, R.K., Fraser, B.J. & Ledbetter, C.E. (2005, August). Using science student perceptions of the classroom learning environment to evaluate a professional development program. Paper presented at the International Conference on Science, Mathematics, and Technology Education. Victoria BC, Canada.

Nix, R.K. & Ledbetter, C.E. (2004, November). Probeware in the Air: Mountain Climbing 201. Professional development workshop presented at the annual Conference for the Advancement of Science Teaching. Corpus Christi, TX.

Nix, R.K., Ledbetter, C.E., & Fraser, B.J. (2004, April). Using the Constructivist Learning Environment Survey to Inform Design, Guide Delivery, Enable Multi-Level Program Evaluation. Paper presented at the annual meeting of the American Educational Research Association. San Diego, CA.

Nix, R.K., Ledbetter, C.E., & Fraser, B.J. (2004, April). Designing, Delivering, and Evaluating a Field-Based Science Course for Teachers Using the Constructivist Learning Environment Survey (CLES). Paper presented at the annual meeting of the National Association for Research in Science Teaching. Vancouver, BC, Canada.

Nix, R.K., Fraser, B.J., & Ledbetter, C.E. (2003, April). Evaluating an Integrated Science Learning Environment (ISLE) Using a New Form of the Constructivist Learning Environment Survey (CLES). Paper presented at the annual meeting of the American Educational Research Association. Chicago, IL.

Nix, R.K., & Ledbetter, C.E. (2003, February). Mountain Climbing 101: Using Real World Data for Real Results. Professional development workshop presented at the annual Local Conference for the Advancement of Science Teaching. Dallas, TX.

Nix, R.K., & Ledbetter, C.E. (2002, April). Drawing conclusions: A quick assessment of student understanding through concept map evaluation. Paper presented at the annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Nix, R.K., Ledbetter, C.E., & Fraser, B.J. (2001, December). Evaluation of an integrated science learning environment that bridges university field classes and field trips. Paper presented at

the annual meeting of the Australian Association for Research in Education. Fremantle, A. [ISSN 1324-9320.]

Nix, R.K. (2001, August). Think about I.T.: Implementing a process approach to information technology. Paper presented at the annual meeting of the Information Technology and Distance Education, Austin, TX.

Nix, R.K. (2001, April). Virtual field trips: The next best thing to being there (and sometimes better!). Presented at the annual meeting of the Geologic Society of America in conjunction with the National Association for Geology Teachers, Albuquerque, NM.

Nix, R.K., Ledbetter, C.E., & Fraser, B.J. (2001, April). A web (page) that works: What a concept (map)! Paper presented at the annual meeting of the National Association for Research in Science Teaching, St Louis, MO.

Nix, R.K., & Ledbetter, C.E. (2001, February). Bringing back Big Bend. Presented at the annual Local Conference for the Advancement of Science Teaching. Dallas, TX.

Nix, R.K., & Ledbetter, C.E. (2000, October). Communication, collaboration & creativity: Integrating real-world technology into science education. Presented at the annual Conference for the Advancement of Science Teaching. College Station, TX.

INVITED PRESENTATIONS

Nix, R.K. (2010, March). Technology in the Science/Mathematics classroom: Keeping pace or setting the pace? Seminar presented for Science Education and Engineering Center. University of Texas at Dallas. Dallas, TX.

Nix, R.K. (2007, October). Going for the Gold: Reflections on Research. Graduate seminar presented for Texas A&M University. College Station, TX.

Nix, R.K. & Ledbetter, C.E. (2004, October). Mountain Climbing 101: Using real-world data for real results. Presented in conjunction with a Professional Development Probeware Workshop offered by PASCO Scientific. Dallas, TX.

Nix, R.K. & Ledbetter, C.E. (2004, October). Electronic data collection is 'EZ': integrating probeware into classroom science teaching. Professional development workshop presented at the San Antonio Math and Science Conference. San Antonio, TX.

Nix, R.K. & Ledbetter, C.E. (2004, October). Electronic data collection is 'EZ': integrating probeware into classroom science teaching. Professional development workshop presented at the Oklahoma Math and Science Conference. Tulsa, OK.

Nix, R.K., & Ledbetter, C.E. (2004, July). A-I-R: YOU are THE key! Professional development workshop presented at The University of North Texas Health Science Center. Ft. Worth, TX.

Nix, R.K., & Ledbetter, C.E. (2004, July). Developing a Teaching Roadmap. Long-term lesson planning activities presented for the Advanced Summer Science Institute at the Dallas Zoo and at the Dallas Aquarium at Fair Park. Dallas, TX.

Nix, R.K., & Ledbetter, C.E. (2004, June). Characters and Characteristics: How real-world conditions combine to control species survival. Professional development workshops presented for the Summer Science Institute at the Dallas Zoo. Dallas, TX.

Nix, R.K., & Ledbetter, C.E. (2004, June). A-I-R: YOU are THE key! Professional development workshop presented at The University of Texas at Dallas. Dallas, TX.

Nix, R.K., & Ledbetter, C.E. (2004, January). Measuring the Invisible: effective and practical evaluation for environmental education programs. Seminar presented for the Texas Aquarium and Zoo Educators regional conference at the Dallas Aquarium. Dallas, TX.

Nix, R.K., & Ledbetter, C.E. (2003, June-July). Characters and Characteristics: How real-world conditions combine to control species survival. Professional development workshop presented for the Summer Science Institute at the Dallas Zoo. Dallas, TX.

Professional and University Citizenship

- Elected Treasurer for Learning Environments Special Interest Group of The American Educational Research Association (2010).
- Reviewed/interviewed for the *Learning Object Repository* project by the Texas Center for Digital Knowledge (TxCDK) at the University of North Texas (UNT); supported by the Texas Higher Education Coordinating Board (THECB) under the Texas Course Redesign Project (2008).
- Interviewed by Robert Threlkeld for article commissioned by the League of Innovation to be presented at the Information Technology for Community Colleges. Nashville, TN: November 11, 2007.
- Faculty Panelist for Designing TDL for Faculty Success session at the annual Innovations in Online Learning Conference for the University of Texas System TeleCampus. Austin, TX (2007, May 24).
- Advisory Board Member for the NSF-funded Policy Research Initiatives in Science Education at Texas A&M University (2006-).
- Internal evaluator for the College Readiness, Transition, and Performance Project for the Texas Schools Project at the University of Texas at Dallas (2006).
- Reviewed Physical Science textbook (2006).
- Interviewed by Texas Parks & Wildlife Department about Project WILD curriculum; coordinated Video News Release with UTD faculty and Garland ISD science teacher and students (DVD presented to state Commissioners and to be aired on NBC).
- Promoted Center for Science Education Research 2005-2006 Seminar series.
- Arranged and supported PASCO Summer Institute (July 18-22, 2005).
- Facilitated WeatherBug Achieve software pilot (September, 2005).
- Served on panel for visiting Japanese educators (November 14, 2005).
- Presented at in-service workshops for K-12 science teachers at the Conference for the Advancement of Science Teaching (1999, Fall). Lubbock, TX.
- Presented at in-service workshops for K-12 science teachers at the Conference for the Advancement of Science Teaching (1998, Fall). Corpus Christi, TX.
- Conducted a variety of experiential activities relating technology to science education in association with SCE Associates at state conventions, regional workshops and district inservices and participated in similar capacity in association with various university courses and national grant programs. Started RNIX Company to provide writing, design and production services to small businesses. Published and co-authored various works that investigate the physical and emotional aspects of vocal training. Worked with counselors/therapists to promote educational activities at Texas Counseling Association conventions. Exposed to a variety of training techniques including experiential-based learning, ROPES Challenge Course, and other options for self-exploration. Created suite of materials to develop 'team spirit' for adult workgroups, community activities and school athletics.

TEACHING ACTIVITIES

- Spring 2000 – present: **Educational Technology/Issues in Educational Technology.**
 The Educational Technology course is offered by the Teacher Development Center, housed within the School of General Studies, via the UT-System TeleCampus. This course addresses two key technological issues that directly impact education: information overload and non-linear processing. These same challenges offer the key to effective design and integration of web-based media into the classroom learning environment. By presenting educational technology as an open framework, teachers, administrators, researchers and curriculum developers will learn how to select/apply appropriate tools and develop/adapt to relevant resources that simplify and enhance their classroom teaching and everyday tasks. Anxiety is transformed into a natural productivity. Activities focus on process skills that are emphasized at all grade levels and facilitate integration across the curriculum. Techniques for fostering critical thinking and higher level reasoning are modeled, then related to specific participant issues. Topics include using various tools – i.e., communication, text, graphics, database, productivity, audio/visual, and presentation – and resources – i.e., the World Wide Web, your professional peers, outside field experts, other educators, and especially your own creativity!
- Spring 2008 – present: **Integrated Earth Science for Teachers.**
 This master's coursework is focused on investigation of earth science standards using pedagogical models of best practice applicable to a variety of learners in diverse contexts. Inquiry-based investigations feature astronomy, meteorology, oceanography, physical geology, mapping, and historical geology – with a hands-on emphasis on the latest scientific research and educational application.
- Fall 2007: **Integrated Physical Science for Teachers.**
 This master's coursework is focused on investigation of physical science standards using pedagogical models of best practice applicable to a variety of learners in diverse contexts. Inquiry-based investigations feature Newton's laws, atoms, chemical and physical reactions, Bernoulli's law, simple machines, electricity, magnetism, light and heat, and energy – with a hands-on emphasis on the latest scientific research and educational application.
- Summer 2007 – present: **Lessons Learned from Leading Researchers in Science Education.**
 This master's coursework provides seminar-based instruction to explore research in science education to enrich classroom implementation and research integration. Seminar presenters include Dr. Barry J. Fraser, Dr. Russell Hulse, and Dr. Alan G. MacDiarmid. Student projects add to the publicly-available Geology-Ecology-Mankind website resource.
- Spring 2005 – present: **Learning Environments.**
 This doctoral coursework is focused on the research of classroom and school learning environments in primary, secondary and tertiary science, mathematics and technology education. Topics include history of learning environment research, relationship between type of learning environment and learning outcomes, instrument design and development, qualitative and quantitative research methods. Co-instructor with Professor Barry J. Fraser, Director of the Science and Mathematics Education Centre and Director of the National Key Centre for School Science & Mathematics, Curtin University of Technology, Western Australia.
- Summer 2004-2006: **Environmental Field Methods.**
 Designed specifically for current or prospective middle school teachers, the year-long instruction includes an intensive summer field experience followed by on-campus meetings and on-line modules. Scientific investigations will use hands-on activities and infuse technology innovations

into classroom instruction. Coursework will support the development of a comprehensive virtual field trip web site. To that end, a cohort of teachers will be instructed in the use of various scientific and educational technologies and exposed to an array of curriculum tools and resources.

- Other course support/part-time teaching activities include instructional design and technology education for Marine Science (Fall 2001), Evaluating Research in Science Education (Fall 2000/2001), Research Design & Methodology for Science Educators (Spring 2000/2001), Field Ecology (Summer 2000/2001/2004), and Environmental Field Methods I & II (Fall/Spring 2004).

SPECIAL SERVICE CONTRIBUTIONS TO PROGRAM, SCHOOL OR UNIVERSITY

- Supported UT-TeleCampus online program marketing efforts at Celebrate the Past, Imagine the Future: Conference for the Advancement for Science Teaching. Austin, TX: November 15-17, 2007. Science Teachers Association of Texas.
- Initiated collaboration among researchers at UTD's Center for BrainHealth meeting with faculty from UTD's Brain and Behavioral Science and Science/Mathematics Education departments to introduce neuroeducation ideas emerging from work with Dr. Palma J. Longo, Biology Professor, University of Massachusetts – Dartmouth. November 1, 2007.
- Assisted with *Science Olympiad* preparations and implementation, UT Dallas hosts. Richardson, TX (March, 2007)
- Served on multiple Science Education Thesis Committees.
- Reader for senior honors theses in Interdisciplinary Studies.
- Participated in several interviews and project reviews with UT-TeleCampus Digital Librarian and interns to design and improve faculty tools in the Learning Resources organization. (2007).
- Taught SMEC 702 Learning Environments Short Course: co-instructor with Professor Barry J. Fraser, Director of the Science and Mathematics Education Centre and Director of the National Key Centre for School Science & Mathematics, Curtin University of Technology, Western Australia. (February, 2007 and 2006).
- Facilitated Fall 2006 launch of MAT-SE Online program with UT-System TeleCampus.
- Reviewed proposals for the 10th Annual TxDLA conference: Teaching and Learning - Online strand (Texas Distance Learning Association).
- Served on committee to develop Guidelines for On-line Learning in Science (Texas Environmental Education Advisory Committee). (Summer 2006).
- Wrote case study about using Principia scoring scanner for Gravic, Inc. (Remark Products Division). (Summer 2006).
- Organized visit for Professor Barry J. Fraser, Director of the Science and Mathematics Education Centre and Director of the National Key Centre for School Science & Mathematics, Curtin University of Technology, Western Australia. (February, 2005).
- Developed marketing materials for MAT-SE Online program with UT-System TeleCampus (2005 program announcement via www.uttc.org, 2005 Conference for the Advancement of Science Teaching, and ancillary articles for various publications).
- Moderated UT-System TeleCampus session for the Innovations in Online Learning conference: Teaching and Learning strand (June, 2005).
- Introduced four MAT-SE students to professional conference participation by proposing, developing and presenting a multiple paper set for School Science and Mathematics conference.
- Organized visit and hosted luncheon for Professor Barry J. Fraser, Director of the Science and Mathematics Education Centre and Director of the National Key Centre for School Science & Mathematics, Curtin University of Technology, Western Australia. (January 27, 2003).

- Supported design, promotion, and delivery of the Seminar Series for Life-long Learners, Center for Science Education Research, UT-Dallas: Fall 2004-Spring 2006.
- Provided technical support for PASCO professional development workshop, hosted at UT-Dallas: October 13, 2004.
- Audited Dr. Herve Abdi's Data Exploration Using Correspondence Analysis course, Dallas Independent School District: Spring 2004.
- Facilitated system upgrade for the Metroplex Area Science Supervisor's 'Virtual Meeting Room', sponsored by the Science/Mathematics Education department.
- Completed PBL training, Lake Highlands High School: March 1 and 3, 2004.
- Designed, developed, and delivered the Teacher Development Center's 'Home Base' internal training course for learning and teaching online.
- Formalized 5 Environmental Systems Field Workshops approved by the Texas Environmental Education Advisory Committee, Texas Education Agency: May 2004.
- Awarded 360 hours for TEEAC recognition and 402 hours of SBEC approved professional development hours for Project WILD/Aquatic WILD teacher training.
- Organized visit and research planning for Barry J. Fraser, Director of the Science and Mathematics Education Centre and Director of the National Key Centre for School Science & Mathematics, Curtin University of Technology, Western Australia: February 8-10, 2004.
- Initiated the design and delivery of Habits and Habitats: How the Real World is 'Hooked' Together, a professional development workshop for local science educators sponsored by the School of Natural Sciences & Mathematics and conducted at the Heard Natural History Museum and Sanctuary, McKinney, TX. (March 22, 2003).
- Provided technical support for Advanced Placement Summer Institute (July 21-25, 2003).
- Organized visit and hosted luncheon for Professor Barry J. Fraser, Director of the Science and Mathematics Education Centre and Director of the National Key Centre for School Science & Mathematics, Curtin University of Technology, Western Australia. (January 27, 2003).
- Technical design/support for Melville Research Cruise virtual field trip through Geosciences/Science Education (Spring 2001).
- Design and production of Science Education program brochure (Fall 2000).
- Organized and promoted public colloquium: International Learning Environments Research in Science Education, presented by Professor Barry J. Fraser, sponsored by the School of Natural Sciences and Mathematics. (April 11, 2002).

SERVICE CONTRIBUTIONS EXTERNAL TO UTD

- Invited reviewer for Learning and Individual Differences. Elsevier. (November 2007).
- Doctoral thesis examiner for Curtin University of Technology.
- Served on Local Arrangements Committee for the National Association for Research in Science Teaching annual meeting in Dallas.
- Reviewed proposals for the 2005 Innovations in Online Learning conference: Teaching and Learning strand (UT-System TeleCampus).
- Reviewed articles for Learning Environments Research (2004).
- Best paper award reviewer for American Educational Research Association: 2004 Special Interest Group on the Study of Learning Environments.
- Member of the local arrangements sub-committee for the National Association for Research in Science Teaching: 2005 annual meeting.
- Strand reviewer for the National Association for Research in Science Teaching: 2004 annual meeting.

- Proposal reviewer for the American Educational Research Association: 2004 annual meeting. External dissertation examiner for Curtin University of Technology (2003).
- Designed, created, and supported the MASS Virtual Meeting Room 1 using UTD's BlackBoard server to facilitate the work of Metroplex Area Science Supervisors (2003-present).
- Facilitated organization of the A+ (Adventure Plus) Team, a local university consortium dedicated to supporting development planning field-based outdoor education site (2003-present).
- Reviewed proposals for the American Educational Research Association annual meeting (2003).
- Judge and Volunteer for robotics competitions sponsored by Science/Mathematics Education and Computer Science & Engineering (2002-2003).
- Reviewed technical proposals for the UT-System TeleCampus platform selection (2001).
- Served as secretary for the National Association of Geoscience Teachers (2000).
- Volunteered as Teacher Liaison and for Kilby Awards Foundation, Symposium and Awards Event (Dallas, Texas); assisted with video production (Fall 2000)
- Reviewed articles for the Texas Science Teacher (2000).

CONSULTANT ACTIVITIES

- 2009-2010. Internal evaluator for the Use of Gaming Technology to Improve Minority/Disadvantaged College Students' Performance in Organic Chemistry Project for the Transforming Undergraduate Education Program at the University of Texas Southwestern Medical Center.
- 2006-2008. Advisory Board Member for the NSF-funded Policy Research Initiatives in Science Education at Texas A&M University. (5-year project).
- 2006. Internal evaluator for the College Readiness, Transition, and Performance Project for the Texas Schools Project at the University of Texas at Dallas.
- 2006: Reviewed Physical Science textbook.
- Co-evaluator for NSF-funded Project SCORE at University of North Texas Health Science Center in Ft. Worth, TX. (Fall 2002 – Spring 2005).
- Supported online data collection and interpretation for master's thesis: B. Grigsby.
- Assisted with pre-K-6 hands-on science testing at St. Phillip's Academy. Dallas, TX. (Spring 2003 – Spring 2005).
- Co-presented problem-solving activity at Hillcrest Academy. Dallas, TX. (Fall 2003).
- Served as advisor for Indicators of Science Excellence focus group headed by Texas A&M University and the Texas Education Agency. (Fall 2003).