

**Elaine Virginia Howes**  
**Curriculum Vitae**

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**Education**

Ph.D., Science Education, Program in Curriculum, Teaching and Educational Policy,  
College of Education, Michigan State University, 1997  
B.A., Biology, Oakland University Honors College, 1985.

**Positions Held**

BSCS (Biological Science Curriculum Study), Science Educator, July 2010-present  
University of South Florida, Assistant Professor of Secondary Education, 2003-2010  
Teachers College, Columbia University, Assistant Professor of Mathematics, Science and  
Technology, 1997-2003.

**Teaching**

University of South Florida, College of Education

SCE 4310, Teaching Elementary School Science  
SCE 4936, Senior Seminar, Secondary Science  
SCE 4305, Communication Skills in the Science Classroom  
SCE 5364, Reading and Communication in Science Education  
SCE 6616/6634, Current Trends in Science Education  
SCE 6938, Field Practicum: Science Education  
SCE 6416, Teaching High School Biology  
EDG 7931, Cultural Diversity in Science Education.

Teachers College, Columbia University

ITSL 4133, Curriculum and Methods for Bilingual Teachers: Science. Co-taught with María  
Torres-Guzmán  
MSTC 4040: Science in Childhood Education  
MSTC 4140: Laboratory Methods and Experiences for Elementary School Teachers  
MSTC 4043: Science in the Environment  
MSTC 4008: Urban Science Education II Seminar  
MSTC 5047: Science Teacher Education  
TY 6505: School-Based Research and Development. Spencer Research Training Grant Seminar

Michigan State University (as graduate assistant)

TE 402: Crafting Teaching Practice in Elementary Science  
TE 801/802: Professional Roles and Teaching Practice I & Reflection and Inquiry in Teaching Practice I  
TE 402: Teaching Secondary Science, Post-Baccalaureate Program  
TE 501: Elementary Internship  
TE 501 & TE 502: Secondary Science Internship.

## K-12 Teaching

Holt Professional Development High School, Holt, Michigan, 1991-1995

*Biology*: A heterogeneously grouped, semester-long required course for high-school sophomores

*Human Genetics*: A semester-long course to fulfill the second required semester of biology

## **Professional Development (BSCS)**

Science Teachers Learning from Lesson Analysis (STeLLA): Led STeLLA two-week summer institutes and nine teacher study groups during the pilot and research years of the STeLLA Professional Development Project. (2010-2013)

ViSTA and ViSTA Plus: Co-planned and led workshops for elementary science methods professors intending to implement ViSTA Plus. (2011, 2012)

Toward High School Biology (THSB): Co-created and co-led three-day professional development workshops for implementing the THSB curriculum. (2012, 2013)

## **Curriculum Development (BSCS)**

Science Teachers Learning from Lesson Analysis (STeLLA): Collaborated with fellow STeLLA professional development leaders to develop elementary classroom lessons and professional development curricula for the STeLLA project.

ViSTA Plus: Created online curriculum for hybrid elementary science methods course.

Toward High School Biology (THSB): Co-developed THSB curriculum with BSCS team and AAAS partners.

## **School-University Collaborations**

Pizzo-USF Partnership Committee: Led workshops and facilitated education students' work with children and teachers. (Fall 2008-Spring 2010)

Tampa Bay School Gardening Network: Partnered with faculty and teachers to provide examples and experiences for using gardening in science education. (Summer 2006-Spring 2010)

Teaching and Learning in Professional Development Schools, with Public School 165M, New York: Worked with school's science coordinator to lead study groups; supervised graduate students partnering with teachers and conducting research in classrooms; conducted research based in teachers' stated interests and needs. (Spring 1999-Fall 2003)

Teachers College Professional Development School Executive Council, Teachers College, Columbia University: Participated in planning the goals and practices of the TC-Professional Development School Partnership. (Fall 1997-Spring 2003)

Facilitator of "Strategies for Data Collection" work group at TC-PDSP Greater Council Meetings. (1998, 2002)

Professional Development School *Science Project*, Holt High School: Taught high-school courses to provide release time for teachers, conducted documentation and participated in grant writing (Fall 1991-Spring 1993)

Professional Development School *Science Curriculum and Inquiry Project*, Elliott Elementary School: Observed in classrooms; participated in meetings and grant writing. (Fall 1994)

## Professional Publications

### Books

- Cruz, B. C., Ellerbrock, C. R., Vasquez, A., & Howes, E. V. (Eds.). (2014). *Talking diversity with teachers and teacher educators: Exercises and critical conversations across the curriculum*. New York: Teachers College Press.
- Howes, E. V. (2002). *Connecting girls and science: Constructivism, feminism, and science education reform*. New York: Teachers College Press.

### Peer-Reviewed Journal Articles

- Howes, E. V., Graham, L., & Friedman, J. (2009). Between McDonaldization and gardening pedagogy: How teachers negotiate science education in action. *Green Theory & Praxis: The Journal of Ecopedagogy*, 5(1), 125-152.
- Howes, E. V., & Cruz, B. (2009). Role-playing in science education: An effective strategy for developing multiple perspectives. *Journal of Elementary Science Education*, 21(3), 33-46.
- Gerretson, H., Howes, E., Campbell, S., & Thompson, D. (2009). Interdisciplinary mathematics and science education through robotics technology: Its potential for education for sustainable development (A case study from the USA). *Journal of Teacher Education for Sustainability*, 10, 32-41.
- Howes, E. V., Lim, M., & Campos, J. (2009). Journeys into inquiry-based elementary science: Literacy practices, questioning, and empirical study. *Science Education*, 93, 189-217.
- Howes, E. V. (2008). Educative experience and early childhood science education: A Deweyan perspective on learning to observe. *Teaching and Teacher Education*, 24(3), 536-549.
- Zeidler, D. L., Sadler, T. D., Simmons, M. L., & Howes, E. V. (2005). Beyond STS: A research-based framework for socioscientific issues education. *Science Education*, 89, 357-377.
- Howes, E. V., Jones, K., & Rosenthal, B. (2004). Cultivating environmental connections in science teacher education: Learning through conversation. *Teachers and Teaching: theory and practice*, 10(5), 553-571.
- Howes, E. V., Hamilton, G., & Zaskoda, D. (2003). Linking science and literature through technology: Thinking about interdisciplinary inquiry in middle school. *Journal of Adolescent & Adult Literacy*, 46, 494-504.
- Howes, E. V. (2002b). Learning to teach science for all in the elementary grades: What do preservice teachers bring? *Journal of Research in Science Teaching*, 39(9), 845-869.
- Howes, E. V. (2000). Developing research that attends to the 'all' in 'science for all': Response to Atwater. *Journal of Research in Science Teaching*, 37(4), 394-397.
- Howes, E. V. (1998). Connecting girls and science: A feminist teacher-researcher study of a high-school prenatal testing unit. *Journal of Research in Science Teaching*, 35(8), 877-896.
- Richmond, G., Kurth, L., & Howes, E. V. (1998). Connections and critique: Feminist pedagogy and science teacher education. *Journal of Research in Science Teaching*, 35(8), 897-918.
- Cavazos, L., Hazelwood, C., Howes, E. V., Kurth, L., Lane, P., Markham, L., Richmond, G., & Roth, K. (1998). Response to Guest Editorial: The WISE Group: Connecting activism, teaching and research. *Journal of Research in Science Teaching*, 35(4), 341-344.

### Book Review

Howes, E. (2002). Designing structures and research texts: Situated learning and elementary teaching. A review of *Re/Constructing elementary science*, by W.-M. Roth, K. Tobin, & S. Ritchie. *Studies in Science Education*, 38(1), 149-154.

### Chapters in Edited and Collaboratively Written Volumes

Howes, E. V. & Lim, M. (2014). Science Education: Exploring diverse visions of science and scientists. In Cruz, B. C., Ellerbrock, C. R., Vasquez, A., & Howes, E. V. (Eds.). (2014). *Talking diversity with teachers and teacher educators: Exercises and critical conversations across the curriculum*, pp. 131-146. New York: Teachers College Press.

Torres-Guzmán, M., & Howes, E. V. (2009). Experimenting in teams and tongues: Team teaching a bilingual science education course. In K. R. Bruna & K. Gomez (Eds.), *Talking science, writing science: The work of language in multicultural classrooms* (pp. 317-339). New York: Routledge.

Rosenthal, B., & Howes, E. V. (2006). A conversation on HIV/AIDS education and teacher education in science and mathematics. In C. A. Grant & L. M. Summerfield (Eds.), *Humanizing pedagogy through HIV and AIDS prevention: Transforming teacher knowledge* (pp. 313-336). Boulder, CO: Paradigm.

Howes, E. V. (2005). Environmental education: Sense of place and social justice. In C. Kershaw (Ed.), *Voices and reflections: An urban education handbook* (pp. 49-54). Milwaukee, WI: Urban Network to Improve Teacher Education.

Howes, E. V. (2005). Thinking about “science for all” in elementary education: Is “multicultural education” the answer? In C. Kershaw (Ed.), *Voices and reflections: An urban education handbook* (pp. 63-69). Milwaukee, WI: Urban Network to Improve Teacher Education.

Howes, E. V., & Rosenthal, B. (2001). A feminist revisioning of infinity: Small speculations on a big subject. In J. A. Weaver, M. Morris, & P. Appelbaum (Eds.), *(Post)Modern science (education): Propositions and alternative paths* (pp. 177-192). New York: Peter Lang.

Howes, E. V. (2001). Visions of “science for all” in the elementary classroom. In A. Calabrese Barton & M. D. Osborne (Eds.), *Teaching science in diverse settings: Marginalized discourses and classroom practice* (pp. 129-157). New York: Peter Lang.

### Non-Peer Reviewed Article

Howes, E. V. (1998, April). Putting students at the core of environmental education. *EarthMatters* (Newsletter of the Columbia University Earth Institute, Special Student Edition).

### In Progress

Hvidsten, C., & Howes, E. V. STeLLA focus on student learning: Elementary students’ ideas about Earth’s changing surface.

Howes, E. V. New teachers’ construction of science learning communities: Context-specific teacher preparation and induction for high-need urban schools.

## **Selected Professional Presentations**

- Contino, J., & Howes, E. (2016). Preparing secondary science teacher candidates for the edTPA: Providing scaffolding for the edTPA commentaries. Workshop proposed for ASTE, 2016, Reno, NE.
- Howes, E. (2016). New teachers' construction of science learning communities: Context-specific teacher preparation and induction for high-need urban schools. Paper proposed for ASTE, 2016, Reno, NE.
- Hammerness, K. *et al.* (2016). Teaching principled practices of teacher across the continuum. Symposium proposed for AACTE's 68<sup>th</sup> Annual Meeting, Las Vegas, NE.
- Contino, J., Short, J., & Howes, E. (2015) Preparing secondary science teacher candidates for the edTPA: Implementing parallel edTPA assignments in an existing curriculum course. Workshop presented at the Association for Science Teacher Education Annual Meeting, Portland, OR.
- Contino, J., Howes, E., & Cooke-Nieves, N. (2015). Mentoring the mentors: Urban science teachers in high-needs schools. Paper presented at AACTE's 67<sup>th</sup> Annual Meeting, Atlanta, GA.
- Howes, E., Contino, J., & Cooke-Nieves, N. (2015). Developing supports for the secondary science edTPA in an urban teacher education residency program. Paper to be presented at AACTE's 67<sup>th</sup> Annual Meeting, Atlanta, GA.
- Vasquez, A., Ellerbrock, C., Howes, E. V., & Cruz, B. (2015). Critical conversations and exercises for talking about diversity in teacher education. Paper presented at AACTE's 67<sup>th</sup> Annual Meeting, Atlanta, GA.
- Cooke-Nieves, N. & Howes, E. V. (June 18, 2014). Creating, implementing, and researching supports for the secondary science edTPA: The first year. Presented at the Conference on Emerging Evidence and Promising Practices, Albany, NY.
- Hvidsten, C., & Howes, E. V. (2013, April). STeLLA focus on student learning: Elementary students' ideas about Earth's changing surface. NARST Annual International Conference, Rio Grande, Puerto Rico.
- Howes, E. V., & Rosenthal, B. (2013, October). Infinity: Where is it in school mathematics? Accepted for presentation at the National Council of Teachers of Mathematics Regional Meeting, Baltimore.
- Vasquez, A., Ellerbrock, C., Howes, E. V., & Cruz, B. (2010, February). Difficult dialogues: Struggles and strategies in the teacher education classroom. American Association of Colleges for Teacher Education Annual Conference, Atlanta.
- Howes, E. V., & Lim, M. (2009, October). Developing an environmental "sense of place" for science teacher education. North American Association for Environmental Education Annual Meeting, Portland, OR.
- Lim, M., & Howes, E. V. (2009, October). Exploring sense of place of urban youth from positionality. North American Association for Environmental Education Annual Meeting, Portland, OR.
- Howes, E. V. (2009, April). Examining the role of voice in teacher action research and identity development from an ecological perspective. Invited presentation for Special Symposium: Promoting professional identity development through science teacher action research. National Association for Research in Science Teaching Annual Conference, Garden Grove, CA.
- Howes, E. V. (2008, April). Students' learning about plants in elementary science methods:

- Journal writing and the uncertainties of assessment. National Association for Research in Science Teaching Annual Conference, Baltimore.
- Howes, E. V., & Rosenthal, B. (2007, November). Curriculum planning meets subject-matter learning in methods class: Progress and problems. School Science and Mathematics Association Annual Convention, Indianapolis.
- Howes, E. V., Lim, M., & Solomon, S. (2007, October). Developing an environmental “sense of place” for science teacher education. Southeastern Association for Science Teacher Education Annual Conference, Valdosta, GA.
- Howes, E. V. (2007, April). Emotion and particularity in learning about plants: A teacher-research study of preservice students’ journal writing. National Association for Research in Science Teaching Annual Meeting, New Orleans.
- Howes, E. V., & Graham, L. (2007, February). Intangible benefits of organic gardening at a K-8 charter school: Resisting the “McDonaldization” of education and nutrition. Ethnography in Education Research Forum, University of Pennsylvania, Philadelphia.
- Howes, E. V., & Lane, P. (2007, January). Principles for elementary science teaching: Teacher educators learning from teachers’ practice. Association for Science Teacher Education Annual Conference, Clearwater, FL.
- Lane, P., & Howes, E. V. (2007, January). Learning science together: The ethic of reciprocity in teacher and teacher educator partnerships. Association for Science Teacher Education Annual Conference, Clearwater, FL.
- Howes, E., Rosenthal, B., Castor, V., & Miller, M. (2006, September). Curriculum planning for teacher candidates’ learning of science and mathematics: A case from mathematics and science methods. Florida Association of Teacher Educators Annual Conference, Orlando.
- Howes, E. V. (2006, April). Exploring the personal and professional aspects of quality in teacher action research. Invited presentation for “Building Quality in Teacher Action Research in Science Education” Symposium at the National Association for Research in Science Teaching Annual Conference, San Francisco.
- Howes, E. V., Cone, N., Hart, S., & Zeidler, D. L. (2005, February). Experiences of preservice teachers and their instructors in a literacy-science service-learning course. Ethnography in Education Research Forum, Philadelphia.
- van Zee, E., Roberts, D., Petrosino, A., Howes, E., Rosenthal, B., & Williams, M. (2005, March). Practitioner research: Looking at data, Part II. Symposium presented at the National Association for Research in Science Teaching Annual Conference, Dallas.
- Howes, E. V., & Rosenthal, B. (2005, January). “Just one of the girls?”: Gender in PDS leadership and governance. Holmes Partnership Annual Conference, Philadelphia.
- Rosenthal, B., & Howes, E. V. (2004, June). Curriculum planning for teacher candidates’ learning of science and mathematics. “Integrating Science and Mathematics Education Research into Teaching” Conference, Orono, ME.
- Howes, E. V., & Torres-Guzmán, M. (2004, April). Experimenting in teams and tongues: Team teaching a bilingual science education course. American Educational Research Association Annual Meeting, Vancouver.
- Howes, E. V., Lim, M., & Moskovitz, K. (2004, April). Barriers along the road to inquiry-based science: Learning about science teaching in elementary science classrooms. National Association for Research in Science Teaching Annual Conference, Vancouver.
- Howes, E. V., & Genor, M. (2004, February). Professional development partnerships: Beyond the bridge metaphor. Holmes Partnership Annual Conference, San Diego.

- Howes, E. V., Campos, J., & Lim, M. (2004, February). Learning from children about science teaching and learning in an urban school. *Ethnography in Education Research Forum*, Philadelphia.
- Howes, E. V. (2003, March). Teaching science in an urban elementary professional development school: Collaboration, conflict, and confirmation. *National Association for Research in Science Teaching Annual Conference*, Philadelphia.
- van Zee, E., Delatola, C., Howes, E. V., & Suh, Y. (2003, March). Group Symposium. Practitioner research: Collaborative inquiries into science learning and teaching. *Ethnography in Education Research Forum*, Philadelphia.
- Howes, E. V. (2003, March). Urban science education for elementary school children: Collaboration across academic contexts. *Ethnography in Education Research Forum*, Philadelphia.
- Howes, E. V., & Calabrese Barton, A. (2002, March). Learning to teach for empowering and socially just science education in urban schools. *Ethnography in Education Research Forum*, Philadelphia.
- Howes, E. V., & Hunt, V. (2002, April). Science pedagogy for *our* children: Elementary science teaching in an urban elementary school. Symposium. *National Association for Research in Science Teaching Annual Conference*, New Orleans.
- Howes, E. V., & Goodwin, A. L. (2001, April). Learning in two languages: Teaching and learning literacy and science in an urban elementary school. *American Educational Research Association Annual Meeting*, Seattle.
- Howes, E. V., Jones, K., & Rosenthal, B. (2001, March). Disciplinary and biological diversity: Collaborative research in science teacher education. *Ethnography in Education Research Forum*, Philadelphia.
- Howes, E. V., Jones, K., Koch, P., & Rosenthal, B. (2000, April). Collaborative research in the context of an intensive outdoor experience: Biodiversity and urban science education. *American Educational Research Association Annual Meeting*, New Orleans.
- Howes, E. V., Cavazos, L., Lane, P., Roth, K., & St. Louis, K. (2000, April). Teacher preparation in science: Getting beyond the rhetoric of “science for all.” *National Association for Research in Science Teaching Annual Conference*, New Orleans.
- Howes, E. V. (1999, April). Strengths preservice elementary teachers bring to science teaching: An anti-deficit approach. *American Educational Research Association Annual Meeting*, Montréal.
- Howes, E. V. (1999, March). Working with preservice teachers to develop science education for “all.” *Ethnography in Education Research Forum*, Philadelphia.
- Calabrese Barton, A., Howes, E. V., & Kurth, L. (1998, June). Issues in feminist pedagogy in science and science teacher education: An interactive panel session. *Nineteenth Annual National Women’s Studies Association Conference*, Oswego, NY.
- Howes, E. V. (1998, April). Values and virtues in the practice of science: Listening to students as a way to enhance our understanding of ‘science for all.’ *American Educational Research Association Annual Meeting*, San Diego.
- Howes, E. V., Roth, K., Lane, P., Richmond, G., Markham, L., & Calabrese Barton, A. (1997, April). Call to action. *National Association of Research in Science Teaching Annual Conference*, Chicago.
- Howes, E. V., & Rosenthal, B. (1996, May). Less than Zeno: What *they* leave out of the infinite. *Canadian Society for the History and Philosophy of Mathematics Annual Meeting*, St

Catharines, ON.

Howes, E. V., Fetters, M. K., Vellom, R. P., & Yerrick, R. K. (1993, April). Professional development schools: Finding, defining, and creating new roles for doctoral students. National Association for Research in Science Teaching Annual Conference, Atlanta.

### **Doctoral Committees**

#### As director

Neporcha T. Cone, *The effects of community-based service-learning on preservice elementary teachers' self-efficacy beliefs about equitable science teaching and learning*, 2006. (As co-director.)

Leslie Day, *A safe place to grow: Children, animals and caring in a life science classroom*, 2003.

Olga Livanis, *A preliminary evaluation of the implementation and efficacy of physics first at the secondary level as characterized by teachers and administrators*, 2002.

Anna Henderson Endreny, *Assessing life science conceptions: The interplay among children's ideas, teachers' assessments and elementary classroom instruction*, 2000.

#### As committee member (selection)

Brendan Callahan, *Enhancing nature of science understanding, reflective judgment, and argumentation through socioscientific issues*, 2009.

Samantha Fowler, *College students' use of science content during socioscientific issues negotiation: Impact of evolution understanding and acceptance*, 2009.

Theresa Greeley, *Ocean literacy and reasoning about ocean issues: The influence of content, experience and morality*, 2008.

Linda S. Keen-Rocha, *Personal epistemological growth in a college chemistry laboratory environment*, 2008.

Courtney Desmond St. Prix, *Narratives of silenced critiques and how they inform pedagogy and policy: Conversation with low-income urban parents about education, science, and science education*, 2002.

### **Workshops and Seminars Presented to Professional Organizations and Institutions**

Interactive Teaching in a Globalizing World," Subject Area Pedagogy Specialist, The Teaching Excellence and Achievement Program, Tampa, Florida, 2010

"Difficult dialogues: Struggles and strategies," with B. Cruz, C. Ellerbrock, & A. Vasquez. USF College of Education, Tampa, FL (March 27, 2009)

"School Gardening," Tampa Bay School Gardening Network (March 29, 2008; October 4, 2008)

"Reading for Comprehension in Science II (high school and middle school)," with L. Amiri, S. Fowler, & R. Potter. Through the Coalition for Science Literacy. Supported by MASTERS Grant (November 11, 2005)

"Reading for Comprehension in Science I (high school and middle school)," with L. Amiri & R. Potter. Through the Coalition for Science Literacy. Supported by MASTERS Grant (October 13, 2005)

"Learning to Use Blackboard," with S. Fowler. Through the Coalition for Science Literacy. Supported by MASTERS Grant (August 17, 2005).

## **Other Professional Service**

### Service to the Department, College, and University

Equity Initiative Group, BSCS, 2010-present

Search Committee, Science Education, 2008, University of South Florida

Search Committee, Chemical Education, 2007, 2008, University of South Florida

Search Committee, Chair of the Department of Secondary Education, 2004, 2005, University of South Florida

College Council, 2005-2006, University of South Florida

Assessment Work for Elementary MAT (Science), University of South Florida

Search Committee, Science Education, Teachers College, 2000

### Reviewing

Review Panelist for the Division of Research on Learning in Formal and Informal Settings (DRL), National Science Foundation, 2013

### Journals:

*American Educational Research Journal*

*Urban Education*

*Journal of Research in Science Education*

*Science Education*

*Journal of Teacher Education*

*Teaching and Teacher Education*

*Pedagogies: An International Journal*

*School Science and Mathematics* (special issue on urban education).

### Conferences:

American Educational Research Association Annual Meeting

National Association for Research in Science Teaching Annual Conference

American Association of Colleges for Teacher Education

Association for Science Teacher Education

### Book manuscripts:

Corwin Press, 2012

Teachers College Press, 1999

### Other National Service

Thread Coordinator, Equity and Diversity Thread, Association for Science Teacher Education, 2007

Strand Coordinator, National Association of Research in Science Teaching, 2002-03

Member of the Urban Network to Improve Teacher Education (UNITE)

Holmes Partnership Annual Meeting, Orlando, FL, 1998; Boston, MA, 1999; Cincinnati, OH, 2000; San Antonio, TX, 2002; San Diego, CA, 2004; Philadelphia, PA, 2005

### Discussant:

University of Pennsylvania Ethnography in Education Forum

National Association of Research in Science Teaching Annual Conference

American Educational Research Association Annual Meeting

Editorial Board, *Educational Transitions: A Journal of Shared Experience for Progressive New Teachers*, 1995-1997.

## Scientific Research

*Research Technician*, Plant Research Laboratories, Michigan State University, October 1987 to September 1989. Carried out research projects requiring knowledge of standard molecular genetics techniques, including isolation of nucleic acids, the use of restriction enzymes, and cloning procedures. In charge of ordering all supplies for the lab and supervising student work.

*Technical Specialist*, Plant Research Laboratories, Michigan State University, Summer 1990. Research focused on cloning and isolation and location of particular genes on the chromosome of a strain of *Cyanobacteria* utilizing molecular genetics techniques.

*Research Assistant*, Michigan Cancer Foundation, Detroit, November 1985 to July 1987. Engaged in cell biology and protein research utilizing high-pressure liquid chromatography, electroblotting and immunoblotting, and one and two-dimensional electrophoresis.

*Student Researcher*, Biological Sciences Department, Oakland University, July 1983 to August 1985. Student position. Developed, carried out, and reported on an investigation into the permeability of the basal membrane of *Drosophila melanogaster* larvae.

## Current Professional Memberships

National Association for Research in Science Teaching

National Science Teachers Association

American Educational Research Association

## Grants Awarded

“Teaching Science with Elementary English Language Learners: A Teacher Action Research Project.” Principal Investigator. Institute for the Study of Latin America and the Caribbean, University of South Florida, 2009

“Students’ Experiential Development of Lessons for Virtual Worlds.” Co-PI. Innovative Teaching Grant, University of South Florida, 2008-2009

“Promoting Nutrition and Environmental Stewardship through School Gardening in Tampa Bay.” Co- PI. Faculty Grant for Community Engagement, USF Collaborative for Children, Families and Communities, University of South Florida, 2007-2008

Research on Gender in Science and Engineering – Supplement to Integrate Research-Based Practices, NSF – 03-502). University of South Florida, 2004-2005

“Experimenting in Teams and Tongues around Science” (Initiative #7 Grant, New York State Department of Education), with María Torres-Guzmán. Co-PI. Teachers College, 2003  
Teachers College Dean’s Grants for Faculty Development in the Use of Technology in Teaching. Co-PI. (1999-2000 and 2000-2001 with Greg Hamilton; 2001-2002 with Angela Calabrese Barton)

Teachers College Program for Diversity Fellows Grant. Co-PI. 2002-2003

“School-Based Teacher Education Research and Development.” Co-PI. Spencer Fellowship Research Training Grant, Teachers College, 1998-2001

Holt High School Science Project Partnership for New Education Grant. Participant. Michigan State University, 1993-1994

Department of Natural Resources Natural Heritage Grant for Elliott Elementary School Outdoor Garden. Co-author and participant. Michigan State University, 1994.

### **Awards and Honors**

Certificate of Achievement, Professional Development School Partnership, Teachers College, Columbia University, 2003

Teachers College Annual Recognition Award for Teaching, 1999-2000

University Graduate Continuing Fellowship, Michigan State University College of Education, Spring 1997

Teacher Education Scholarship, Michigan State University College of Education, Spring 1995

Outstanding Educational Scholar Fellowship, Michigan State University College of Education, 1991-1994

Departmental Honors, Biological Sciences Department, Oakland University, 1984.