

KIMBERLY H. LOTT

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EDUCATION

Doctor of Philosophy, Secondary Science Education	Auburn University; Auburn, AL (August, 2002) Dissertation: <i>Evaluation of a State-wide Science Inservice and Outreach Program</i>
Masters of Education	Georgia Southern University; Statesboro, GA (1997) Major Area: Secondary Science Education
Bachelor of Science <i>magna cum laude</i>	Auburn University; Auburn, AL (1992) Major Area: Secondary Science Education

EMPLOYMENT HISTORY

Associate Professor, Science Education (July, 2014- present).

College of Education and Human Services, Utah State University, Logan, Utah.

Responsibilities include teaching science education courses in the School of Teacher Education and Leadership (TEAL), assist in the development of undergraduate and graduate science education programs, mentor graduate students, and pursue a research and service agenda in science education.

Assistant Professor, Science Education (August, 2007-June, 2014).

College of Education and Human Services, Utah State University, Logan, Utah.

Responsibilities include teaching science education courses in the School of Teacher Education and Leadership (TEAL), assist in the development of undergraduate and graduate science education programs, mentor graduate students, and pursue a research and service agenda in science education.

Adjunct Science Instructor, (2005-2006).

College of Education, University of Kentucky, Lexington, Kentucky.

Responsibilities included teaching elementary science methods courses.

Assistant Research Professor, (2003-2004).

College of Education, University of Kentucky, Lexington, Kentucky.

Responsibilities included researching effective math and science teaching strategies and then to compiling them into a searchable database within the Commonwealth Center for Instructional Technology and Learning (CCITL).

Postdoctoral Fellow, (2002-2003).

College of Education, Auburn University, Auburn, Alabama.

Responsibilities included working as an administrative assistant to the Dean of the College of Education in the editing of the book *Global Perspectives on Mentoring: Transforming Contexts, Communities and Cultures*.

Graduate Teaching Assistant, (2002).

College of Education, Auburn University, Auburn, Alabama.

Responsibilities included teaching undergraduate science education courses in the department of Curriculum and Teaching.

Graduate Teaching Assistant, (1997-1998, 2000-2001).

College of Science and Mathematics, Auburn University, Auburn, Alabama.

Responsibilities included teaching undergraduate biology courses in the department of General Biology.

Placement Officer, (1999-2002).

College of Education, Auburn University, Auburn, Alabama.

Responsibilities included making student teaching placements for undergraduates in teacher programs and the development of a database system for organizing and communication of these placements with students and local school system officials.

Science Teacher (8 years)

Bob Jones High School, Madison City Schools, Madison, Alabama. (2006-2007).

Responsibilities included teaching physical science and earth/space science (grades 10-12).

Lee-Scott Academy, Private, Auburn, Alabama. (1998-1999, 2003-2004).

Responsibilities included teaching middle school life and physical science (7th and 8th grade), and high school chemistry (grades 10-12).

Calvary Baptist Day School, Private, Savannah, Georgia. (1994-1997).

Responsibilities included teaching middle school life and earth science (7th and 8th grade).

McCants Middle School, Anderson County District 5, Anderson, South Carolina. (1992-1994).

Responsibilities included teaching middle school life and earth science (7th and 8th grade).

AWARDS AND PROFESSIONAL RECOGNITION

Teacher of the Year Award recipient (2010). Awarded by the School of Teacher Education and Leadership.

PROFESSIONAL AFFILIATIONS

Association for Science Teacher Education (ASTE)

National Science Teachers Association (NSTA)

Utah Science Teachers Association (USTA)

RESEARCH

Research Interests:

- Effects of using reformed science teaching strategies (inquiry, project-based, placed-based, etc.) on preservice and inservice elementary teachers (and their students).
 - Conceptual understanding of science content
 - Level of classroom implementation
 - Student understanding of science content
- Literacy and math as the tools for learning science in grades K-2.
- Assessment of science learning in grades K-2.
- Effective uses of technology for teaching science in grades K-2.

PUBLICATIONS

Journal Articles (Refereed)

(*Indicates student authors)

Lott, K.H. & Clark, S.K. (under review). Learning the Language of Scientists: Using disciplinary literacy to increase reading and writing in early elementary. *Science and Children*.

Tofel-Grehl, C., Bennett, B.*, **Lott, K.H.**, Ball, D.*, Longhurst, M., & Balls, M.* (under review). Brought to bear: Exploring how elementary science teachers' self-concepts and scientific misconceptions move from private understanding to instructional barriers. *Journal of Science Teacher Education*.

Boling, J., Longhurst, M., & **Lott, K.H.** (Accepted; 3/3/20). Watersheds, communities, & collaboration: Place-based peer mentoring in the field. *Science and Children*.

Mitchell, A.*, **Lott, K.H.**, & Olsen, C. (Accepted; 1/20/20). How plants gain weight: Integrating modeling into a 5E learning cycle. *Science and Children*.

Tofel-Grehl, C., Searle, K., Hawkman, A.M., Hansen, T.*, & **Lott, K.H.** (2021). Crafting circuits: Integrating culturally responsive teaching and current events into science. *Science and Children*, 58(4), 83-88.

Mitchell, A.* & **Lott, K.H.** (2020). Making it bounce: Investigating properties of materials. *Science and Children*, 58(2), 58-63.

Lott, K.H. & Clark, S.K. (2020). Science in the literacy block: A model for early elementary integrated instruction. *Science and Children*, 58(2), 26-32.

Lott, K.H., Bennett, B.*, & Urbanek-Carney, S. (2020). Bridging the gap: Activities to promote early childhood connections between home and school. *Science and Children*, 57(9), 48-56.

Clark, S. K., **Lott, K.H.**, Larese-Casanova, M., Taggart, A.*, & Judd, E.* (2020). Leveraging disciplinary literacy to teach science informational text in first grade and to explore student perceptions of scientists. *Research in Science Education*. Published online: March 21, 2020.

- Lott, K.H.**, Urbanek-Carney, S., & Mitchell, A.* (2019). Cookie jar alarms: Early childhood engineering with robotics. *Science and Children*, 57(3), 66-72.
- Lott, K.H.** & Clark, S.K. (2019). No time for science? *Science and Children*, 57(1), 68-73.
- Lott, K.H.**, Lott, A.C., & Ench, H.M.* (2018). Sounds of science: Accommodating students who are deaf or hard of hearing. *Science and Children*, 55(5), 42-47.
- Ames, T.*, Reeve, E., Stewardson, G., & **Lott, K.H.** (2017). Wanted for 21st century schools: STEM teacher renaissance man/woman preferred. *Journal of Technology Education*, 28(2), online.
- Clark, S.K. & **Lott, K.H.** (2017). Integrating science inquiry and literacy instruction for young children. *The Reading Teacher*, 70(6), 701-710.
- Lott, K.H.** & Read, S. (2015). Map it then write it! Primary students have many options for graphic organizers to help develop writing skills in science. *Science and Children*, 53(3), 46-52.
- Kinder, T.*, Mesner, N.O., Larese-Casanova, M., **Lott, K.H.**, Cachelin, A. & Leksander, K. (2015). Changes in Knowledge and Attitude from a Short-Term Aquatic Education Program. *Natural Sciences Education*, 44:18-25.
- Roghaar, D. & **Lott, K.H.** (2014). Is it alive? Using place-based education to teach students living and non-living things in the environment. *Science and Children*, 51(7), 78-80.
- Lott, K.H.**, Wallin, M., Roghaar, D., & Price, T.* (2013). Engineering encounters: Catch me if you can! *Science and Children*, 51(4), 65-69.
- Lott, K.H.** & Wallin, L. (2012). Modeling the states of matter in a first-grade classroom. *Science Activities: Classroom Projects and Curriculum Ideas*, 49 (4), 108-116.
- Lott, K.H.** & Jensen, A. (2012). Changes matter! Addressing misconceptions students have about physical and chemical changes. *Science and Children*, 50(2), 54-61.
- Lott, K.H.** & Read, S. (2012). "Is a mealworm really a worm?" Introducing science notebooks to novice writers. *Science and Children*, 49(5), 32-37.
- Lott, K.H.** (2011). FIRE UP the Inquiry. Lose the routine, tweak your "cookbook lab," and reach a level of open inquiry with these strategies used during a unit on heat. *Science and Children*, 48(7), 29-33.
- Campbell, T. & **Lott, K.H.** (2010). Triad dynamics: Investigating the importance of social forces, positions, and storylines. *Teaching Education*, 21(4), 349-356.
- Krall, R.M., **Lott, K.H.**, & Wymer, C.L. (2009). Inservice elementary and middle school teachers'

conceptions of photosynthesis and respiration. *Journal of Science Teacher Education*, 20(1), 41-55.

Lott, K.H. (2003). Evaluation of a statewide science inservice and outreach program: Teacher and student outcomes. *Journal of Science Education and Technology*, 12(1), 65-80.

Book Chapters

Lott, K.H., Wallin, M., Roghaar, D., & Price, T. (2016). Catch me if you can! A STEM activity for Kindergarteners is Integrated Into the curriculum. In L. Froschauer (Ed.), *Bringing STEM to the Elementary Classroom* (pp. 71-78). Arlington, VA: NSTA Press.

Lott, K.H. (2014). Reestablishing the role of the university professor in the laboratory school: Lessons learned from being back in the classroom. In M. Dias, C. Eick & L. Brantley-Dias (Eds.), *Science teacher educators as K-12 teachers: Practicing what we teach* (pp. 243-251). New York, NY: Springer.

Lott, K.H. (2013). FIRE UP the Inquiry. Lose the routine, tweak your “cookbook lab,” and reach a level of open inquiry with these strategies used during a unit on heat. In L. Froschauer (Ed.), *A Year of Inquiry: A Collection for Elementary Educators* (pp. 142-148). Arlington, VA: NSTA Press.

Other Publications

Skinner, M., with **Lott, K.H.**, & Longhurst, M. (2010). *A Crack in the Night*. Storyline Express: Logan, UT.

GRANTS FUNDED

2015-2022 Department of Education (DOE)

Amount: \$16,439,200 (\$2,366,400 per year for Years 1-6 & \$2,240,800 for Year 7)

Project Title: STARS! (Science, Technology, Arithmetic, Reading Students) GEAR UP Project (Cohort 2)

Project Role: Principal Investigator

2017-2018 Utah System of Higher Education (USHE): Title IIA Improving Teacher Quality Grant

Amount: \$65,000.00

Project Title: INSTILL: Integrating Science and Technology Into Language Learning

Project Role: Principal Investigator

2016-2017 Utah System of Higher Education (USHE): Title IIA Improving Teacher Quality Grant

Amount: \$60,000.00

Project Title: INSTILL: Integrating Science and Technology Into Language Learning

Project Role: Principal Investigator

2015-2017 Utah’s STEM Action Center

Amount: \$261,712

Project Title: Regional Partnership for Elementary STEM (ESTEM)

Project Role: Co-PI

2012-2013 Research Catalyst Grant, Utah State University

Amount: \$19,126.39

Project Title: Advancing Literacy and Math through Scientific Inquiry

Project Role: Principal Investigator

2008-2009 New Faculty Grant, Utah State University

Amount: \$14,243.00

Project Title: The Effects of a One-Week Conceptual-based Professional Development Institute on Inservice Middle School Teachers Conceptions of Properties of Matter, Heat and Temperature

Project Role: Principal Investigator

GRANTS SUBMITTED

(Not-Funded)

November, 2018 National Science Foundation (NSF): Discovery Research Pre-K-12 (DR PreK-12)

Amount: \$446,327

Project Title: STILTS: Science Technology Integration Leveraging Teacher Supports

Project Role: Co-Principal Investigator

November, 2017 National Science Foundation (NSF): Discovery Research Pre-K-12 (DR PreK-12)

Amount: \$1,884,953

Project Title: Collaborative Research: Integrating Science and Technology Into Language Learning (INSTILL)

Project Role: Principal Investigator

December, 2016 National Science Foundation (NSF): Discovery Research Pre-K-12 (DR PreK-12)

Amount: \$1,850,135

Project Title: INSPIRES: Integrated NGSS Supporting Primary Instruction and Reformed Educational Strategies

Project Role: Principal Investigator

(Resubmitted November, 2017)

August, 2016 National Science Foundation (NSF): Innovative Technology Experiences for Students and Teachers (ITEST)

Amount: \$1,198,877

Project Title: STILTS: Science Technology Integration Leveraging Teacher Supports

Project Role: Co-Principal Investigator

(To be resubmitted-November, 2018)

November, 2015 National Science Foundation (NSF): Innovative Technology Experiences for Students and Teachers (ITEST)

Amount: \$1,198,877

Project Title: T³ SCIENCE²: Technology Tools to Teach Student Centered Interactive Embedded NGSS Content in Early Elementary

Project Role: Principal Investigator

(Resubmitted- August, 2016)

PRESENTATIONS

International Presentations—Scholarship

- Longhurst, M. & **Lott, K.H.** (2021, January). *Impact of distance delivery on 3-dimensional instruction for university students preparing to become teachers*. Paper session presented at the Annual Meeting of the Association for Science Teacher Education, Virtual.
- Lott, K. H.**, Tofel-Grehl, C., & Mitchell, A.* (2020, January). *The use of robotics with engineering design: Early childhood conceptions of engineers*. Paper session presented at the Annual Meeting of the Association for Science Teacher Education, San Antonio, TX. <https://theaste.org/publications/proceedings/2020-proceedings/>
- Tofel-Grehl, C., Bennett, B.*, Balls, M.*, Ball, D.*, **Lott, K.**, & Longhurst, M. (2020, January). *From private conception to professional practice: A cross-case analysis of elementary teachers' scientific misconceptions and how they play out in classroom instruction*. Presented at the Annual Meeting of the Association for Science Teacher Education. San Antonio, TX: January 9-12, 2020. <https://theaste.org/publications/proceedings/2020-proceedings/>
- Longhurst, M. L., **Lott, K. H.**, Bennett, B., & Mitchell, A. (2020, January). *Deepening teacher understanding and implementation of Disciplinary Core Ideas instruction through pictorial representations*. Presented at the Annual Meeting of the Association for Science Teacher Education, San Antonio, TX. <https://theaste.org/publications/proceedings/2020-proceedings/>
- Bennett, B.*, Longhurst, M., Tofel-Grehl, C., & **Lott, K.H.** (2020, January). *Conceptions of matter from a STEM endorsement*. Submitted to the Annual Meeting of the Association for Science Teacher Education. San Antonio, TX: January 9-12, 2020. <https://theaste.org/publications/proceedings/2020-proceedings/>
- Lott, K.H.**, Longhurst, M., & Bennett, B.* (2019, January). *Assessing in-service elementary teachers' conceptions of forces: Best practices that promote increased conceptual understanding*. Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Savannah, GA. <https://theaste.org/publications/proceedings/2019-proceedings/>
- Lott, K.H.**, Clark, S., & Larese-Casanova, M. (2018, January). *Integrating Science and Technology Into Literacy*

Learning: Results from a year-long professional development project with early elementary (K-2) teachers. Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Baltimore, MD. <https://theaste.org/publications/proceedings/2018-proceedings/>

Lott, K.H., Tofel-Grehl, C., & Longhurst, M. (2017, January). *Assessing elementary teachers' conceptions of matter: Best practices that promote increased conceptual understanding.* Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Des Moines, IA. <https://theaste.org/publications/proceedings/2017-proceedings/>

Lott, K.H. & Lott, A. C. (2016, January). *Technology Tools to Teach (T³) Science: Effects of using technology tools in early elementary classrooms.* Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Reno, NV. <https://theaste.org/publications/proceedings/2016-proceedings/>

Longhurst, M. & **Lott, K.H.** (2016, January). *A model for implementation: How one district is preparing elementary teachers to engage student in 3-Dimensional science.* Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Reno, NV. <https://theaste.org/publications/proceedings/2016-proceedings/>

Lott, K.H. (2015, January). A case study of a kindergarten teacher's beliefs about teaching science before, during and after professional development. Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Portland, OR. <https://theaste.org/publications/proceedings/2015-proceedings/>

Lott, K.H. (2014, January). *Developing an assessment of early childhood scientific inquiry.* Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). San Antonio, TX. <http://theaste.org/publications/2014-proceedings/>

Lott, K.H. (2013, January). *Assessing the learning progression of early childhood scientific inquiry.* Poster presented at the annual international conference of the Association for Science Teacher Education (ASTE). Charleston, SC. <http://theaste.org/publications/proceedings/2013proceedings.pl>

Lott, K.H. (2012, January). *The effects on elementary teachers' views of scientific inquiry and beliefs about teaching science.* Paper presented at the annual international conference of the Association for Science Teacher Education (ASTE). Clearwater, FL. <http://theaste.org/publications/proceedings/2012proceedings.pl>

Lott, K.H. (2012, January). *Testing the learning progression of scientific modeling: Can first graders use scientific modeling to explain the states of matter?* Poster presented the annual international conference of the Association for Science Teacher Education (ASTE). Clearwater, FL. <http://theaste.org/publications/proceedings/2012proceedings.pl>

- Hauck, N. & **Lott, K.H.** (2012, January). *Effects of sustained teacher professional development on the classroom science instruction of elementary school teachers*. Poster presented at the annual international conference of the Association for Science Teacher Education (ASTE). Clearwater, FL.
<http://theaste.org/publications/proceedings/2012proceedings.pl>
- Lott, K.H.** & Longhurst, M. (2011, January). *Elementary CORE Academy: Possible impacts on elementary teachers and students*. Poster presented at the Annual International Conference of the Association for Science Teacher Education (ASTE). Minneapolis, MN.
<http://theaste.org/meetings/2011conference/2011proceedings.pl>
- Lott, K.H.** (2011, January). *Learning to Teach by Learning to Learn: A Model for Teaching an Elementary Science Methods Course*. Poster presented at the Annual International Conference of the Association for Science Teacher Education (ASTE). Minneapolis, MN.
<http://theaste.org/meetings/2011conference/2011proceedings.pl>
- Lott, K.H.** & Campbell, T. (2009, January). *Exploring the link between socioeconomic status and differing science laboratory experiences of high school students*. Paper presented at the Annual International Conference of the Association for Science Teacher Education (ASTE), Hartford, CT.
<http://theaste.org/cgi-bin/2009conference/2009proceedings.pl>
- Lott, K. H.** (2008, January). *Science Excel: An Effective Teacher Recruitment Program for Rural Schools?* Paper presented at the Annual International Conference of the Association for Science Teacher Education (ASTE), St. Louis, MO.
http://theaste.org/publications/proceedings/2008proceedings/2008_ASTE_Proceedings.pdf
- Campbell, T. & **Lott, K.H.** (2008, January). *Triad experiences: The impact of joint professional development for pre- and in- service science teachers on triad dynamics*. Paper presented at the Annual International Conference of the Association for Science Teacher Education (ASTE), St. Louis, MO.
http://theaste.org/publications/proceedings/2008proceedings/2008_ASTE_Proceedings.pdf
- McNall, R.L., Straley, J.P., Shafer, S.A., **Lott, K.H.**, & Osborn, J.L. (2007, January). *Virtual Inquiry-based Physics for Teachers: Temperature and Heat*. Paper presented at the Annual International Conference of the Association for Science Teacher Education (ASTE), Clearwater, FL.
<http://theaste.org/publications/proceedings/2007proceedings/index.htm>
- McNall, R.L. & **Lott, K.H.** (2006, April). *Inservice Elementary and Middle School Teachers' Conceptions of Selected Life Science Concepts*. Paper presented at the Annual International Conference of the National Association of Research in Science Teaching (NARST), San Francisco, CA.
- Lott, K.H.** (2006, March). *Inservice Middle School Teachers' Conceptions Related to the Properties and Changes of Properties of Matter*. Paper presented at the Annual Conference of the International Consortium for Research in Science and Mathematics Education (ICRSME), Nassau, Bahamas.
- Lott, K.H.** (2006, January). *Inservice Elementary Teachers' Conceptions of Materials, States of Matter and the Properties of Objects*. Paper presented at the Annual International Conference of the Association for Science Teacher Education (ASTE), Portland, OR.
<http://theaste.org/publications/proceedings/2006proceedings/index.htm>

Lott, K.H. (2002, April). *Evaluation of a Statewide Science Inservice and Outreach Program*. Paper presented at the Annual International Conference of the National Association of Research in Science Teaching (NARST), New Orleans, LA.

National Presentations—Scholarship

Lott, K.H. & Roghaar, D. (2016, April). Think it, Map it, Write it, Learn it. Paper presented at the annual meeting of the National Science Teachers Association (NSTA), Nashville, TN.

McNall, R.L., Brown, S, & **Lott, K.H.** (2005, April). *Teaching Science with Technology for Grades K-8*. Paper presented at the annual meeting of the National Science Teachers Association (NSTA), Dallas, TX.

Regional Presentations—Scholarship

Lott, K.H., Tofel-Grehl, C. & Mitchell, A.* (2019, October). Young children are natural engineers! We will explore early childhood experiences that meet the NGSS engineering practices. Presentation accepted to be presented at the regional National Science Teachers Association (NSTA), Salt Lake City, UT.

Mitchell, A. & **Lott, K.H.** (2019, February). Bouncy ball science: Using crosscutting concepts to support student sense-making. Presentation to be presented at the annual Utah Science Teachers Association Conference (USTA). Provo, UT.

Lott, K.H. & Roghaar, D. (2016, March). Think it, Map it, Write it, Learn it. Paper presented at the annual meeting of the Utah Early Childhood Conference, Murray, UT.

Lott, K.H. (2001, October). *Evaluation of a Statewide Inservice and Outreach Program--Preliminary Findings*. Paper presented at the annual meeting of the Southeastern Association of Educators of Teachers in Science (SAETS), University of South Florida.

Lott, K.H. (October, 2000). *Alabama's Science in Motion Mobile Laboratory for High Schools*. Paper presented at the Annual meeting of the Southeastern Association of Educators of Teachers in Science (SAETS), Auburn University.

Melvin, E.A., Roy, V., & **Lott, K.H.** (2000, March). *Exploring the Horizons of Pre-Service Internships*. Paper presented at the annual meeting of the Mid-South Educational Research Association (MERA), Point Clear, AL.

Baird, W.E., Eick, C., & **Lott, K.H.** (1999, October). *The Secondary Science Internship: What Can We Learn From Each Other?* Paper Presented at the annual meeting of the Southeastern Association of Educators of Teachers in Science (SAETS), University of Georgia.

Invited Presentations

Lott, K.H., Wallin, M., Roghaar, D., & Price, T. (2016). Catch me if you can! A STEM activity for Kindergarteners

is integrated into the curriculum. Presented at the Elementary STEM showcase at the National Science Teachers Association (NSTA) STEM Forum conference. Denver, CO.

Roghaar, D. & **Lott, K.H.** (2016). *Is it alive? Using place-based education to teach students living and non-living things in the environment*. Presented during the Elementary Extravaganza at the annual conference of the National Science Teachers Association (NSTA). Nashville, TN.

Roghaar, D. & **Lott, K.H.** (2015). *Is it alive? Using place-based education to teach students living and non-living things in the environment*. Presented during the Elementary Extravaganza at the annual conference of the National Science Teachers Association (NSTA). Chicago, IL.

Lott, K.H., Wallin, M., Roghaar, D. & Price, T. (2014). *Catch me if you can! A STEM activity for Kindergartners*. Presented during the Elementary Extravaganza at the annual conference of the National Science Teachers Association (NSTA). Boston, MA.

Lott, K.H. & Jensen, A. (2013). *Changes Matter!* Presented during the Elementary Extravaganza at the annual conference of the National Science Teachers Association (NSTA). San Antonio, TX.

UNIVERSITY TEACHING

Utah State University, Logan, Utah (2007-present) **College of Education and Human Services**

TEAL 7820: Research in Science Education (Spring 2020)

This course is part of the science concentration core of doctoral courses. This course is designed for doctoral students to explore the different outlets of science education research, including both research and practitioner journals. Students are lead through the writing process of practitioner papers, research proposals and research papers.

TEAL 7820: Contemporary Perspectives on the Teaching and Learning of K-12 Science Education (Fall 2018)

This course is part of the science concentration core of doctoral courses. This course explores contemporary views of the teaching and learning of science and engineering – especially as it connects to the implementation of the Next Generation Science Standards and the new vision for K-12 Science Education.

ELED 4000/4020 Teaching Science (Fall 2009-present)

This is a methods of teaching science course designed for elementary teaching majors. This course focuses on the nature of science, best science teaching practices, the theoretical basis for these practices and the learning of science through inquiry approaches. This class is also taught to the statewide campus students through blended broadcast and online modules.

TEAL 6560 Elementary STEM Endorsement Course-Matter (Summers 2016, 2018)

This course provides inservice elementary teachers with a deep and useful understanding of matter and the nature of how students use concepts of matter to make sense of phenomena across life, earth, and physical science.

TEAL 6560 Elementary STEM Endorsement Course-Force (Summers 2016, 2018, 2019)

This course provides inservice elementary teachers with a deep and useful understanding of matter and the nature of how students use concepts of matter to make sense of phenomena across life, earth, and physical science.

SCED 3400 Teaching Science I (Fall 2007)

A methods course designed as an introduction to effective science teaching strategies and the theoretical basis for these strategies. Secondary teaching students with a major or minor emphasis in science take this course.

SCED 4400 Teaching Science II (Spring 2008-Spring 2009)

A methods course designed to further prepare future science teachers. This course emphasizes how effective teaching strategies can be organized into teachable units, as well as issues of secondary science including: diversity, technology, laboratory safety. Secondary teachings students with a major emphasis in science take this course.

SCED 5500 Student Teaching Seminar (Fall 2008, Spring 2009)

A 10-week course taken by students teachers in science. This course focuses on the day-to-day classroom issues, as well as practice in reflective teaching practice.

SCED 6900 Independent Study (Spring 2008, Spring 2009)

This is a course designed for graduate students working on special problems in science education.

TEAL 6700 Improving Science Instruction (Spring 2010-Spring 2014)

This is an online course designed for classroom teachers and curriculum specialists to explore the major topics of reformed science teaching. Modules include: Constructivism, Nature of Science, Science Technology and Society (STS), and Action Research in the Classroom.

TEAL 7900 Independent Study (Fall 2010)

This is a course designed for graduate students working on special problems in science education.

University of Kentucky, 2005-2006

College of Education

EDC 328 Teaching Science in the Elementary School

This is a method of teaching science course designed for elementary teaching majors. This course focuses on the nature of science, best science teaching practices, the theoretical basis for these practices and the learning of science through inquiry approaches.

Auburn University, 2002

College of Education

CTSE 4090 C&T I: Science

This is a methods course designed as an introduction to effective science teaching strategies and the theoretical basis for these strategies. This course was co-taught with Dr. Bill Baird.

CTEE 4030 Elementary Curriculum: Science

This is a methods of teaching science course designed for elementary teaching majors. This course focuses on the nature of science, best science teaching practices, the theoretical basis for these practices and the learning of science through inquiry approaches. This course was co-taught with Dr. Michael Kamen.

Auburn University, 1997-1998, 2000-2001

College of Science and Mathematics

BIOL 1010 Survey of Life

This is an introductory biology course designed for non-science majors.

BIOL 1030 Organismal Biology

This is the second biology course for non-science majors that focuses on human biology, as well as environmental biology concepts.

WORKSHOPS

Lott, K.H., Clark, S., Larese-Casanova, M. (2016-2018, Oct, Jan, March). *Integrating Science and Technology Into Literacy Learning*. Workshops for K-2 elementary teachers presented as part of the INSTILL project, Utah System of Higher Education.

Lott, K.H. (2012, Oct-Nov). *The new frameworks for K-12 science education: International implications*. A series of workshops given for international science teachers as part of the Teaching Excellence and Achievement (TEA) program (funded by the Department of Education).

Lott, K.H. (2012, July). *Advancing literacy and math through scientific inquiry*. Presented as part of a Research Catalyst Grant, Utah State University.

Lott, K.H. & Campbell, T. (2010, January). *Using Internet Technologies for Collecting and Analyzing Focus Group Data*. Presented at the annual meeting of the Association for the Education of Teachers in Science, Sacramento, CA., January 14, 2010.

Campbell, T., **Lott, K.H.** (2009). *Students Engaged in University Classrooms*. Presented as part of the Provost Lecture Series, Utah State University, March, 2009.

Campbell, T., **Lott, K.H.** (2008). *Engaging Students in University Classrooms*. Presented as part of the Provost Lecture Series, Utah State University, November, 2008.

Lott, K.H. (2008). *Middle School Physical Science: Properties and Changes in Properties of Materials, Heat and Temperature*. Presented as part of a New Faculty Grant, Utah State University, July, 2008.

Lott, K.H. (2005). *Science and Technology*. Presented as part of the Girls in Research project, University of Kentucky, June, 2005.

SERVICE

National/International

Thread Coordinator (2020)	<i>Association for Science Teacher Education (ASTE) Program Committee Curriculum, Pedagogy and Assessment Thread</i>
Committee Member (2017-2020)	<i>Association for Science Teacher Education (ASTE) Professional Development Committee</i>
Committee Member (2013-2015)	<i>Association for Science Teacher Education (ASTE) Professional Development Committee</i>
Proposal Reviewer (2013-present)	<i>Association for Science Teacher Education (ASTE) 'Preservice Science Teacher Preparation' Strand</i>
Reviewer (2013-2019)	<i>International Journal of Science Education</i>

State and Local

Committee Member (2018-2019)	<i>First Grade Writing Committee State Office of Education Revising K-5 Science Standards Utah</i>
Participant (2007-present)	<i>State Science Education Coordinator Committee (SSECC) Utah</i>
Science Resource (2009-present)	<i>Edith Bowen Laboratory School Logan City School District Cache County School District</i>
Governing Board Member (2012-2014)	<i>Edith Bowen Laboratory School Logan City School District</i>

University

Mentor (2014-present)	<i>Teaching Documentation Workshop Utah State University</i>
Past-President (Fall 2018- Spring 2019)	<i>Faculty Senate Utah State University</i>

President (Fall 2017- Spring 2018)	<i>Faculty Senate Utah State University</i>
Task Force Member (2017-2019)	<i>Sexual Assault Task Force Utah State University</i>
Faculty Representative (Fall 2017)	<i>Panel on Freedom of Speech Institute of Government and Politics Utah State University</i>
Faculty Representative (Spring-Summer 2017)	<i>Provost Search Committee Utah State University</i>
Committee Member (2016-2017)	<i>Student Code Revision Committee Utah State University</i>
President-Elect (Fall 2016- Spring 2017)	<i>Faculty Senate Utah State University</i>
College of Education Representative (2013- 2019)	<i>Faculty Senate Utah State University</i>
Chair of the Education Sub-committee (2007-2008)	<i>Focus the Nation Committee Utah State University</i>
<u>College</u> College of Education Representative (2007-2008)	<i>College of Sciences Biology Educator Search Committee Utah State University</i>
<u>Departmental</u> Content Block Coordinator (Spring 2019-present)	<i>Teacher Education and Leadership Utah State University</i>
C&I Masters Coordinator (Fall 2018-present)	<i>Teacher Education and Leadership Utah State University</i>
Committee Member (Fall 2019-present)	<i>Teacher Education and Leadership Instructional Leadership (Tenure Track) Search Committee Utah State University</i>

Committee Member (Fall 2019-present)	<i>Teacher Education and Leadership Instructional Leadership (Clinical) Search Committee Utah State University</i>
Committee Chair (2017-2018)	<i>Content Practicum Committee Teacher Education and Leadership Utah State University</i>
Committee Member (Fall 2018)	<i>Teacher Education and Leadership Literacy/Science-Price Search Committee Utah State University</i>
Committee Member (Summer 2018)	<i>Teacher Education and Leadership Hiring Committee: Graduate Programs Coordinator Utah State University</i>
Committee Member (2014-2015)	<i>Teacher Education and Leadership Hiring Committee: Field Experiences Coordinator Utah State University</i>
Committee Member (2014-2015)	<i>Teacher Education and Leadership Social Studies Search Committee Utah State University</i>
Level III Coordinator (2014-2018)	<i>Teacher Education and Leadership Utah State University</i>
Department Representative (Spring 2011)	<i>College of Education Edith Bowen Laboratory School Principal Search Committee Utah State University</i>
Department Representative (2009-2010)	<i>College of Education STEM Educator Search Committee Utah State University</i>
Committee Member (2008-2009)	<i>Teacher Education and Leadership Secondary Social Studies Search Committee Utah State University</i>
Activity Coordinator (2005-2006)	<i>Science Excel Program Appalachian Math Science Partnership University of Kentucky</i>