Dr. Sara (Yendra) Cooper

Personal Statement

Passionate science educator with 15+ years of experience coordinating and leading science education initiatives in a variety of contexts. Seeking to use strategic thinking and innovative practices to design systems that lead to improved educational outcomes for students. Extensive experience in: designing STEM learning experiences for students and educators for both formal and informal settings, developing strategic partnerships to support the implementation of state-level science education initiatives, and equitable science assessment.

Education

University of Nebraska-Lincoln

EdD EdD in Educational Studies May 2019
Dissertation: "Science Educators as Assessment Engineers: A Mixed Methods Case Study of Nebraska's Pilot Assessment Development"
Committee: Dr. Ron Bonnstetter, Dr. Julie Thomas, Dr. Guy Trainin

MA Master of Arts in Teaching, Learning, and Teacher Education May 2008
Adviser: Dr. Ron Bonnstetter

BS Bachelor of Science in Secondary Education-Natural Science May 2005
BS Bachelor of Science in Biology May 2005

Professional Experience

Science and High Ability Learning Coordinator

Educational Service Unit #5, Beatrice, Nebraska, August 2020-current

- Provide continued science and high ability learning support to 10 districts
- Design and deliver virtual 3rd-6th grade elementary science lessons
- Coordinate, design, and deliver high quality professional learning experiences for K-12 educators
- Provide ongoing, just-in-time support for science educators implementing three dimensional, phenomena-driven instructional units
- Develop K-4 three dimensional, phenomena-driven integrated curriculum units
- Develop materials to support high ability learning programs

Science Education Guru

Independent consultant based in Lincoln, Nebraska, August 2019 - current

- Reviewed and provided revision guidance for vendor developed middle school science curriculum
- Provided support for science materials implementation, including developing and facilitating professional learning opportunities for ESU 5 science educators
- Led development of two science storyline instructional units for American Farm Bureau Foundation for Agriculture and developed and facilitated a four-day workshop for pilot teachers
- Developed a curriculum framework for Nebraska FFA Foundation that integrates science and Agriculture, Food, and Natural Resources in an innovative 3-year high school model
- Developing K-12 science curriculum units supporting the Army Corps of Engineers and SilverJackets partners educational goals related to flooding
- Developing cradle to grave science materials supporting the City of Lincoln Waste Management goals
- Coordinating Leading States work for the Learning Policy Institute's State Performance Assessment Learning Community

Science Education Specialist
Nebraska Department of Education, Lincoln, Nebraska, October 2014 - August 2019

- Provided leadership for the development and implementation of Nebraska's College and Career Ready Standards for Science
- Designed and provided 80+ quality professional learning experiences for Nebraska educators related to 3-Dimensional standards, phenomena-driven instruction, instructional shifts, formative assessment task development, and summative assessment task development
- Led the development of a system of assessments to monitor student learning in science
- Provided leadership for policy decisions related to teacher certification programs and STEM education
- Coordinated the development of high school integrated science courses
- Collaborated with district, state, and nonprofit instructional leaders to support standards implementation
- Maintained communication with Nebraska stakeholders through virtual meetings, quarterly updates, face-to-face meetings, and social media
- Co-developed a four-state professional learning network for science educators
- Acquired internal and external funds to support science standards implementation
- Designed on-line learning modules in Articulate 360 and delivered in Moodle and Canvas for educator professional learning

Environmental Studies Coordinator
University of Nebraska, Lincoln, Nebraska, August 2008 - September 2014

- Advised 110 + students per semester regarding their academic and career goals

- Developed and maintained web-based communication forums for advisees using Blackboard and Facebook
- Supervised student workers
- Supervised 4 student organizations
- Co-developed program objectives and developed core course outlines and learning objectives
- Developed and coordinated out-of-classroom experiential learning opportunities for students
- Developed and co-instructed Environmental Studies Program courses

  ENVR 101 Environmental Studies Orientation
  ENVR 201 Science Systems: Environment & Sustainability
  ENVR 289 Sophomore Orientation
  ENVR 499A Senior Thesis I
  ENVR 499B Senior Thesis II
  ENVR 499H Honors Senior Thesis I & II
  ENVR 497 Internship in Environmental Studies
  ENVR 489 Environmental Studies Seminar
  ENVR 498 Independent Study
  NRES 108 Earth's Natural Resource Systems

Adjunct Faculty
Union College, Lincoln, Nebraska, January 2021 - May 2021
- Physical Science for Non-Majors co-instructor

Nebraska Wesleyan University, Lincoln, Nebraska, August 2019 - May 2020
- Secondary Science Methods instructor

Laboratory Earth Co-Instructor
University of Nebraska, Lincoln, Nebraska, August 2006 - August 2008
- Co-developed and co-instructed distance delivered Earth Systems Science courses for educators

  NRES 896A Laboratory Earth: Concepts & Applications
  NRES 896A: Laboratory Earth: NRES Systems
  NRES 108: Earth's Natural Resource Systems Lab
  NRES 896A: Laboratory Earth: Changing Systems

Science Educator
Southwest High School, Lincoln, Nebraska, August 2005 - June 2008
- Taught Geoscience, Forensic Science, Physical Science, and Biology classes
- Coordinated cooperative planning sessions with colleagues to create and plan differentiated curriculum units
- Coach of the Science Olympiad team

Bright Lights Teacher

Bright Lights Summer Enrichment Program, Lincoln, Nebraska, 2005 - 2015

- Developed and team-taught Science of Superheroes Day Camp for upper elementary students
- Developed and team-taught Outdoor Explorer's Day Camp for middle school students
- Developed and team-taught Crime Scene Investigators Day Camp for middle school students
- Developed and taught Wildlife Forensics for elementary school students
- Mentored teachers new to the Bright Lights program

Keep Improving Content Knowledge and Skills in Science (KICKS) Leader
Nebraska MSP Grant, Ogallala, Nebraska, Summer 2010

- Developed and delivered a two week professional learning experience for science educators focused on environmental-science and inquiry-based pedagogy
- Coordinated with research station scientists to engage teachers in place-based, authentic learning experiences.

EPSCORE Curriculum Specialist
Nebraska EPSCORE, Lincoln, Nebraska, Summers of 2008 and 2009

- Developed summer camp curriculum related to environmental water quality for middle and high school students
- Coordinated teachers and curriculum training to lead week-long summer camps

Forensic Science Curriculum Developer
Pfizer, Groton, Connecticut, Summers of 2009 and 2010

- Participated in forensics training workshops at the Connecticut State Crime Lab
- Developed forensic science curriculum materials for middle and high school students
- Designed and led an environmental forensic science 4-day professional learning experience for educators

Research Assistant for Inspiring Inquiry
University of Nebraska-Lincoln, September 2005 - September 2006

- Coordinated and led students and teachers in a two-week workshop to promote environmental inquiry
- Conducted research to develop a model for teaching inquiry-based science curriculum to middle level students

Teaching Assistant for Limnology Lab
University of Nebraska, Lincoln, Nebraska, Summer of 2005

- Coordinated and prepared labs and lab materials
- Led students in daily field work at Cedar Point Biological Research Station

Student Teaching and Advanced Practicum

Pound Middle School, Lincoln, Nebraska, September 2004 - May 2005
- Team taught five periods of 7th grade science, 23-32 students per class
- Created, planned and implemented Layered Curriculum® units
- Participated in all aspects of teaching, including mid-term reports and Parent-Teacher Conferences

Teaching Assistant for Biology 101 Lab and Botany 109 Lab
University of Nebraska-Lincoln, 2002 - 2004
- Designed and presented pre-lab lectures using PowerPoint
- Guided and monitored students during lab exercises
- Held weekly review sessions to aid in student understanding

Related Work Experience

Research Assistant in Aquatics Lab
University of Nebraska-Lincoln, September 2004 - October 2006
- Environmental sampling and laboratory research monitoring toxic algae blooms

Customer Service Representative
First State Bank- Hickman, October 2001 - August 2002
- Responsible for maintaining vault and ATM balances

Lead Teller
Wells Fargo- Lincoln Bank South, October 1999 - October 2002
- Trained all new tellers and prepared teller work schedule

Certifications and Relevant Professional Learning

Nebraska Teaching Certificate, Natural Science and Biology Endorsements
EQuIP Rubric Training
5 Tools Pathways Model Training
NGSX Storylines Training
OpenSciEd Facilitator Training
NextGenTIME Facilitator Training

Honors

Catalyst Award, Nebraska Association of Teachers of Science
UNL Parents Association/Teaching Council Certificate of Recognition for Contribution to Students
Dean's List, College of Education and Human Sciences
Dean's List, College of Arts and Sciences
Herbert Brownell Scholarship

Regents Scholarship

Special Skills

Ideation and Innovation
Teamwork and Collaboration
Leadership
Empathy and Relationship Building
Oral and Written Communication
Creativity and Problem Solving
Strategic Thinking

Professional Memberships

LPI SPA-LC, 2017-present
CCSSO SCASS Science, 2014-2019
Council of State Science Supervisors, 2014-present
National Science Teachers Association, 2004-present
Nebraska Association of Teachers of Science, 2004-Present

Publications

Contributor to "Next Generation Science Standards Assessment Task Annotations," Achieve, Inc. (2019). Task Annotation Project in Science. Retrieved from https://www.achieve.org/ourinitiatives/equip/tools-subject/science/task-annotation-project-science

Contributor to "Criteria for Procuring and Evaluating Science Assessments" Achieve, Inc. (2019). Retrieved from https://www.nextgenscience.org/resources/assessment-criteria

Contributor to "Transforming Science Assessment: Systems for Innovation" Achieve, Inc. (2018). Retrieved from https://www.achieve.org/transforming-science-assessment-systems-for-innovation

Contributor to "State Spotlight: Nebraska's State-Led Science Assessment System" Achieve, Inc. (2018). Retrieved from https://www.achieve.org/systems-for-innovation-ne-example

Lowering the walls and crossing boundaries: applications of experiential learning to teaching collaboration; Gosselin, D.; **Cooper, S**.; Lawton, S.; Bonnstetter, B. Journal of Environmental Studies and Sciences 6(2) · August 2015

Laboratory Earth: Connecting Everything to Everything Else Online for Pre-college Educators; Gosselin, D.; Bonnstetter, R.; **Yendra, S**.; Slater, T.
American Geophysical Union, Fall Meeting 2007, abstract #ED43A-06

Laboratory Earth: Making Earth System Science Come Alive Online for Elementary Teachers; Gosselin, D., Bonnstetter, R., **Yendra, S**, Slater, T., and Doll, E.,
2007 GSA Denver Annual Meeting (28–31 October 2007)

Teacher and Student Measures of Efficacy for Teaching and Learning Inquiry-Based Science; PytlikZillig, L.; Bonnstetter, R.; Bruning, R.; Doll, B.; **Yendra, S**.; American Educational Research Association annual meeting; January 2007

Select Presentations

Popping the Bubble (test): Exploring the Future of Assessment Systems in Science
Aneesha Badrinarayan, Sara Cooper
Council of State Science Supervisors, virtual conference, 2021

Equitable 3D Learning in Science for All
Michael Heinz, Sara Cooper
NSTA Regional Conference, Cincinnati, OH, 2019

Bringing Equity to the Foreground in Assessment: Student Perspective-Taking as Vehicle for Productive Conversations
Sara Cooper
CCSSO Science SCASS, Orlando, FL, 2019

NGSS Large Scale Assessment Alignment, Expectations, Challenges, and Solutions
Tamara Smolek, April McCrae, Sara Cooper, Kevin King
CCSSO National Conference on Student Assessment, Orlando, FL, 2019

Navigating Leadership as a State Science Supervisor: Using Improvement Science as a Compass
Sara Cooper, Amanda Buice
Council of State Science Supervisors, St. Louis, MO, 2019

KSNE Interim Task Project: With help from Achieve
Sara Cooper, Lizette Burks
CCSSO Science SCASS, 2018

Strengthening Claims-based Interpretations and Uses of Local and Large–scale Science Assessment Scores: Project Insights
Liz Summers, Valorie Foy, Sara Cooper, Susan Davis-Becker, Ellen Forte, & Howard Everson
NCME Classroom Assessment Conference Lawrence, KS, 2017

Considering the Design and Role of Interim Assessments in an NGSS System of Assessments
Nathan Dadey, Sara Cooper
NCME Classroom Assessment Conference Lawrence, KS, 2018

Considerations in Maintaining Fidelity of NGSS Assessments
Sara Cooper, Tamara Smolek, Joseph Martineau, Nathan Dadey
CCSSO National Conference on Student Assessment, San Diego, CA, 2018