**Arianna E. Pikus**

pikusari@tamu.edu 586-850-4594

**CURRENT POSITION**

Assistant Professor, Teaching, Learning, & Culture, Texas A&M University, 2023 - Present

**EDUCATION**

2023 - Ph.D., Human Development and Family Studies, Michigan State University

*Doctoral Thesis:* “Head Start teachers’ ideas about science and how it relates to classroom practices.”

2019 - M.S., Child Development, Michigan State University

 *Master Thesis: “*The effects of nature-based preschools on children’s development.”

2016 - B.A., Public Policy, Michigan State University

2012 - B.S., Environmental Studies and Agriscience, Michigan State University

**AWARDS**

2022 – Estate of Mary Lewis Scholarship for research excellence in child development ($1,000.00)

2021 – Estate of Mary Lewis Scholarship for research excellence in child development ($1,000.00)

2021 – Doctors Robert E. Lee and Patricia A. Ball Scholarship ($500.00)

2020 – Estate of Mary Lewis Scholarship for research excellence in child development ($4,000.00)

2019 – Estate of Mary Lewis Scholarship for research excellence in child development ($6,000.00)

2018 – Graduate Enhancement Fund ($2,750.00)

**GRANTS**

Empowering Tomorrow's Innovators: High-Quality STEM Education in Early Childhood. **Pikus, A. E.** [PI], Henry, A. [Co-PI], & Guerrero-Rosada, P [Co-PI]. (*submitted*). Texas A&M University, Catapult Grant. 2/2024-9/2025, $30,000.

Head Start teachers’ ideas about science and how it relates to classroom practices.**Pikus, A. E.** [PI] (2023). Michigan State University, Dissertation Completion Fellowship, 05/2023 – 08/2023, Award Total: $7,000.

**PUBLICATIONS**

#### Refereed journal articles in press

Richar, S., **Pikus, A. E.,** Wright, T. S., & Gotwals, A. W. (2023).Quest for survival: Students’ use of biomimicry to support engineering design solutions. *Science and Children.* IF: 0.4.

Authorship Contribution: Conceptualization, data curation, writing, editing.

Gerde, H. K., Bingham, G. E., Kung, M., **Pikus, A. E**., & Etchinson, H. (2022). STEM Labs: A promising professional learning approach to promote teacher-child interaction quality and science and engineering practices. *Early Education & Development.* IF: 3.99; SJR IF: 1.97.

Authorship Contribution: Conceptualization, writing.

Bingham, G. E., Gerde, H. K., **Pikus, A. E**., Rohloff, R., Quinn, M. F., Bowles, R. P., & Zhang, X. Y. (2022). Examining teachers’ early writing knowledge and practices. *Reading and Writing*, 1-27. <https://doi.org/10.1007/s11145-022-10299-x>. SJR IF: 1.45.

 Authorship Contribution: Data curation, formal analysis, writing.

Gerde, H. K., **Pikus, A. E.,** Lee, K. S., Van Egeren, L. A., & Quon Huber, M. S. (2021). Head Start children’s science experiences in the home and community. *Early Childhood Research Quarterly, 54*, 179-193*.* SJR IF: 5.01.

Authorship Contribution: Conceptualization, methodology, data curation, formal analysis, writing.

Pentimonti, J., Gerde, H. K., & **Pikus, A. E.** (2020). Finding time for science in the primary grades: Using informational text read alouds and writing experiences to increase children’s engagement, knowledge, and literacy. *Young Children, 74*(4), 14-22*.* SJR IF: .17 Note: Young Children is the premier practitioner journal of the National Association for the Education of Young Children with over 100,000 members who receive this journal.

Authorship Contribution: Conceptualization, writing.

**articles under review**

**Pikus, A. E.,** Skibbe, L. E., Larimore, R., & Sobel, D. (*Revise & Resubmit).* Investigating nature-based preschoolers gains in early literacy and select executive function skills. *Early Education and Development.*

Authorship Contribution: Conceptualization, methodology, data curation, formal analysis, investigation, writing.

Gotwals, A. W., Wright, T. S., **Pikus, A. E.,** & Anderson, B.(*Revise & Resubmit).* Validation of the SOLID Start Tool for classroom science discourse. *Journal of Research in Science Teaching.*

Authorship Contribution: Conceptualization, methodology, data curation, formal analysis, validation, writing.

**Pikus, A. E.,** Etchison, H., Gerde, H., & Bingham, G.(*under review)* Nature for all: Utilizing the Universal Design Framework to incorporate nature-based learning within an early childhood inclusive classroom. *TEACHING Exceptional Children.*

Authorship Contribution: Conceptualization, writing.

**Books**

Baillie, P., Larimore, R., & **Pikus, A. E**. (2023*). Evaluating natureness: Measuring the quality of nature-based classrooms in pre-k through 3rd grade.* Gryphon House.

Authorship Contribution: Conceptualization, data curation, writing.

**Measures**

Larimore, R., **Pikus, A. E**., & Baillie, P. (2023*). Nature-based education rating scale (NABERS) for k-3 education: Comprehensive assessment rubric.* Gryphon House.

Authorship Contribution: Conceptualization, methodology, investigation, writing.

Baillie, P., Larimore, R., & **Pikus, A. E**. (2023*). Nature-based education rating scale (NABERS) for pre-k education: Comprehensive assessment rubric.* Gryphon House.

Authorship Contribution: Conceptualization, methodology, data curation, formal analysis, investigation, writing.

**Publications in Preparation**

Wright, T. S., Gotwals, A. W., & **Pikus, A. E.** (*in preparation*).SOLID Start Curriculum supports teachers’ facilitation of science talk to promote sensemaking in elementary classrooms.

Authorship Contribution: Conceptualization, methodology, data curation, formal analysis, writing.

**Pikus, A. E.,** Skibbe, L. E., & Larimore, R. (*in preparation*).Long term effects of nature-based kindergarten.

Authorship Contribution: Conceptualization, methodology, data curation, formal analysis, writing.

**Invited Talks**

Bailie, P. & **Pikus, A.E.** (2023, November 8). *A Guided Exploration of Evaluating Natureness.* [Webinar]. Inside-Outside: Nature-based Educators. Virtual.

Larimore, R., Bailie, P., & **Pikus, A.E.** (2023, March, 8). *Measuring the Quality of Nature-based Classrooms Using the NABERS Tool.* [Webinar]. edWeb. Virtual.

Kenimer, E., **Pikus, A. E.,** Anderson, B., Wright, T. S., & Gotwals, A. (2020, March 6). *Supporting K-2 student science talk through purposeful reflection on teaching practices* [Conference presentation]. Michigan Science Teachers Association Conference, Lansing, MI.

#### PRESENTATIONS

**National and International Conferences**

**Pikus, A.E.** (2023). *Using the NABERS tool to identify the quality of nature-based programs.* [Conference session] Texas Association for the Education of Young Children (TXAEYC) Conference. Round Rock, TX.

Bingham, G. E., McClure, P., **Pikus, A. E.,** & Williams, C. (2022). *Into the woods! Designing inclusive nature-based programming.* [Conference session] National Association for the Education of Young Children (NAEYC) Conference. Washington D.C.

Baillie P., Larimore, R., & **Pikus, A. E.** (2022). *Using the NABERS tool to identify the quality of nature-based programs.* [Conference session] National Association for the Education of Young Children (NAEYC) Conference. Washington D.C.

### Baillie P., Larimore, R., & **Pikus, A. E.,** (2022). ***Using the NABERS tool to identify the quality of nature-based programs.* [Conference session] Nature-based Early Learning Conference. Columbus, OH.**

Gerde, H. K.,Bingham, G. E., & **Pikus, A. E.** (2022, March*). STEM labs: A promising professional learning approach to promoting STEM teaching skills*. [Paper presentation] NARST Annual Conference, Vancouver, British Columbia, Canada.

Gotwals, A. W., Bismack, A. S., **Pikus, A**. **E.**, & Wright, T. S. (2022, March). *Supporting early elementary science and literacy teaching: The (potential) synergy of pedagogical resources*. [Paper presentation] NARST Annual Conference, Vancouver, British Columbia, Canada.

Bingham G. E., Gerde, H. K., Rohloff, R. C., Zhang, X. Y., & **Pikus, A. E**. (2020, December). Patterns of interactions: profiles of teacher supports for emergent writing*.* In D. Rowe (Chair*), Improving early writing instruction: Insights about instructional materials and teachers’ pedagogical interactions.* [Symposium]. Literacy Research Association, Houston, TX/Virtual.

**Pikus, A. E.,** Skibbe, L., Larimore, R., & Sobel, D. (2020, July). *Academic outcomes from nature-based kindergarten and first grade classrooms.* [Poster presentation] Nature-Based Early Learning Conference, Virtual conference.

Gotwals, A., Edwards, K., Domke, L., **Pikus, A. E.,** Anderson, B., & Wright, T. S. (2020, April). *Teacher learning in a professional development for scientific sense-making.* [Paper presentation]. NARST Annual Conference. *Cancelled due to COVID-19.*

Larimore, R.A., **Pikus, A. E**., Skibbe, L. E., & Sobel, D. (2019, August). *Development of the nature-based education rating scale (NABERS) for k-3 education.* [Poster presentation] Nature-Based Early Learning Conference, Manchester, NH.

Skibbe, L. E., **Pikus, A. E**., Larimore, R., & Sobel, D. (2019, July). *Nature-based educational programming in relation to literacy and mathematics development in kindergarten and first grade.* [Poster presentation] Society for the Scientific Study of Reading, Toronto, ON.

**Pikus, A. E.,** Skibbe, L., Larimore, R., & Sobel, D. (2019, March). *The effects of nature-based preschool on child development*. [Poster presented] Society for Research in Child Development, Baltimore, MD.

**Pikus, A. E**., Gerde, H. K.,Van Egeren, L. A., & Lee, K. S. (2019, March). Science opportunities provided in the homes of Head Start children. In R. Larimore (Chair) *Engaging young learners in science both in and out of school.* [Symposium] the Society for Research in Child Development, Baltimore, MD.

**Research Experience**

Developing A Discourse Observation Tool and Online Professional Development to Promote Science, Oral Language and Literacy Development from the Start of School (SOLID Start). T. Wright (PI), A. Gotwals (Co-PI), H. Gerde (Co-I). *National Science Foundation,* DR K-12, 2016-2021, $2,299,602.

 Served as a Graduate Research Assistant for a professional development and curriculum design and evaluation study funded by the National Science Foundation focused on early science and literacy development in K – 2nd grade. Responsibilities included developing, implementing, and validating a classroom assessment to be used by teachers and coaches, developing online professional development materials for K-2 educators, managing the professional development platform, coordinating with teachers and coaches about the professional development, and conducting interviews about the professional development, dissemination.

Frazer Nature Curriculum Evaluation Project. G. Bingham (PI). The Frazer Center, $46,725. Role: Consultant

 Served as a consultant for the creation and evaluation of nature-based curriculum for an inclusive preschool in Atlanta, GA. Responsibilities included writing a curriculum manual including nature-based lessons for children age 2-6 and guiding principle content for early educators, adapting current lessons to include adaptations for children with varying abilities, leading multiple day in-person professional learning experiences with early educators, and collecting data on fidelity and efficacy of curriculum.

Evaluation of the Strong Beginnings Preschool Program for 3-year-old children. *Michigan Department of Education*. H. Gerde (PI), L. Skibbe (Co-PI), Wu (Co-PI). $360,000. Funded from January 2020 – December 2022.

 Served as a Graduate Research Assistant for the evaluation of public preschool for 3-year-old children in Michigan. Responsibilities included recruiting children from child care programs across the state of Michigan to be evaluated to determine the efficacy of state-funded preschool programs for 3-year-olds, trained undergraduate research assistants in innovative remote assessment system developed by the PIs, orchestrated remote data collection with onsite assessment proctors and university research assistants including scheduling, establishing zoom links, and extensive communication with program staff, proctors, and families.

Fellowship for the “Tanzania Partnership Program.” *College of Education, Michigan State University.* PI: Bethany Wilinski. 2020.

 Awarded a fellowship to develop a professional development curriculum for teacher educators and pre-service teachers in Tanzania. Responsibilities included developing a module on play-based science education in Tanzania and proving feedback on other play-based modules (literacy, math, what is play).

Development of the Improving Writing Resources and Interactions in Teaching Environments through Professional Development (IWRITE-PD) for Teachers of Economically Disadvantaged Children. H. Gerde (PI), G. Bingham (Co-PI), & R. Bowles (Co-PI). *Institute of Education Sciences* (R305A150210). 2015-2019. $1,499,994.

Served as Project Coordinator for a professional development intervention study funded by the US Department of Education, Institute of Education Sciences. Responsibilities included data management, website revisions, developing a coding protocol for teachers writing practices, training undergraduate and graduate research assistants to reliability in the coding system, and leading reliability meetings. In spring of 2020, I led the reorganization of our coding process as research assistants moved home during the pandemic working with IRB to ensure a secure, re-visioned, remote approach to coding to keep this work moving forward during the initial phases of the COVID-19 pandemic.

Development of the Improving Writing Resources and Interactions in Teaching Environments through Professional Development (IWRITE-PD) for Teachers of Economically Disadvantaged Children. H. Gerde (PI), G. Bingham, & R. Bowles (Co-PIs). *Institute of Education Sciences* (R305A150210). 2015-2019. $1,499,994.

Served as a Graduate Research Assistant for professional development intervention study funded by the US Department of Education, Institute of Education Sciences. Responsibilities included assessing Head Start children (*n =* 511) using a variety of standardized and researcher developed measures, observing classrooms with multiple measures, organizing and entering data, and supervising other research assistants.

Project Coordinator for “Nature-based early education” grant. *Storer Foundation.* PI: David Sobel, Co-PI: Lori E. Skibbe. 2018-2019.

 Served as Project Coordinator for a study assessing learning outcomes for children in nature-based K – 2nd grade classrooms. Responsibilities included collecting and managing data, writing reports to the funders and stakeholders, conducting classroom observations, and developing a measure to assess the amount of nature in classrooms.

**Mentorship**

*Graduate Students*

Meier, A. (2020). *A longitudinal examination of language development by gender.* [Unpublished master’s thesis]. Michigan State University

Role: Mentored Ms. Meier on latent growth curve analyses for her thesis study.

*Undergraduate Students*

 Mentored the following students through the research process as they identified a research question, engaged in a brief literature review, collected data, analyzed data, and prepared and presented a poster representing their study.

Developing nature-based early childhood curriculum in urban settings. *Provost Undergraduate Research Initiative Award* to Symone Boyd, Mentor L. Skibbe, **Graduate Student Mentor Arianna Pikus**, Michigan State University, 2021-2022, $4,000

Examining educative curricula for early childhood science for preservice teachers. *Provost Undergraduate Research Initiative Award* to Laura Scarcelli, Mentor H. Gerde, **Graduate Student Mentor Arianna Pikus**, Michigan State University, 2019-2020, $2,000

Feasibility and effects of an educative curriculum for early childhood science education. *Provost Undergraduate Research Initiative Award* to Mia Rodgers, Mentor H. Gerde, **Graduate Student Mentor Arianna Pikus**, Michigan State University, 2018-2019, $2,000

Schultz, L., **Pikus, A. E.,** & Gerde, H. K. (2019, August). *Observations of teacher practice for early childhood science education*. Mid-Michigan Symposium for Undergraduate Research Experiences, East Lansing, MI.

Schultz, L., Rodgers, M., **Pikus, A.** **E.,** & Gerde, H. K. (2019, April*). Observations of teacher practice for early childhood science education*. University Undergraduate Research and Arts Forum, East Lansing, MI.

**Teaching Experience**

Research and Quantitative Methods in HDFS (HDFS 481): Instructor of Record—Fall 2022

Michigan State University, Department of Human Development and Family Studies

Undergraduate research methods course. 20 students, face-to-face instruction.

Applied Multivariate Data Analysis (HDFS 960): Lab Instructor—Fall 2021, Fall 2022

 Michigan State University, Department of Human Development and Family Studies

 Graduate statistics course. 10-20 students, virtual, synchronous instruction.

Child Growth and Development (HDFS 211): Instructor of Record—Summer 2021

Michigan State University, Department of Human Development and Family Studies

Undergraduate developmental theory course. 20 students, virtual, asynchronous instruction.

Curriculum for Early Childhood Programs (HDFS 321 and HDFS 321 Lab): Graduate Teaching Assistant—Spring 2021, Course Instructor: Hope K. Gerde

 Michigan State University, Department of Human Development & Family Studies

Undergraduate curriculum and practicum course. 20 students, virtual, synchronous instruction.

Responsibilities included teaching a portion of the course material using active learning approaches, grading student lesson plans, and participating in the curriculum review process with head teachers from the child development labs.

Personal Finance (HDFS 238): Graduate Teaching Assistant--Summer 2019, Course Instructor: Miki Sato

Michigan State University, Department of Human Development & Family Studies

Undergraduate course. 100 students, virtual, asynchronous instruction.

Responsibilities included preparing course content, grading assignments, guiding students to create an investment portfolio.

Assistant Preschool Teacher, Spartan Child Development Center, East Lansing, MI, 2016 – 2018

Responsibilities included teaching in an inclusive classroom, providing written developmental information to families and special service staff, adapting activities according to Individual Education Plans (IEP), and supervision of undergraduate practicum students.

Outdoor Environmental Educator, NY YMCA Camp, Huguenot, NY, 2014 – 2015

*Lead Teacher:* Responsibilities included facilitating learning with nature for students preK – adulthood, meeting state standards for science education, and adapting activities according to Individual Education Plans (IEP).

Environmental Educator, Howell Conference and Nature Center, Howell, MI, 2010 – 2014

Responsibilities included facilitating learning with nature for students preK – adulthood, meeting state standards for science education, facilitating team building, supervised adventure learning through ropes courses, and adapting activities according to Individual Education Plans (IEP).

**Guest Lectures**

**Pikus, A. E.** (2021, November 3). *Research in nature-based early childhood education* [Guest lecture]. Undergraduate Course in Human Development and Family Studies, Michigan State University, Lansing, MI.

**Pikus, A. E.** (2021, March 16) *Children’s development of science understanding and impacts of covid-19 on research* [Guest Lecture]. Undergraduate Course in Human Development and Family Studies, Michigan State University, Lansing, MI.

**Pikus, A. E.** (2020, November 4). *Children’s development of science understanding and impacts of covid-19 on research* [Guest Lecture]. Undergraduate Course in Human Development and Family Studies, Michigan State University, Lansing, MI.

**Pikus, A. E.** (2020, March 31). *Research in early childhood science education* [Guest Lecture]. Undergraduate Course in Human Development and Family Studies, Michigan State University, Lansing, MI.

**Professional Consulting for Early Childhood Programs**

**Pikus, A.E.,** (2023, October). *Learning in and with the outdoors.* Led a professional learning workshop for 45 early childhood professionals focused on nature-based learning in and outside of the classroom.

**Pikus, A.E.** (2023, March). *Incorporating emergent writing activities with early childhood science.* Led a half-day professional learning workshop for 60 early childhood professionals focused on strategies to incorporate writing within early childhood science lessons.

**Pikus, A.E.** (2022, January). *Improving science talk within science curriculum.* Led a professional learning workshop focused on incorporating discourse within science lessons. One-hour professional learning session with 20 elementary school teachers.

**Pikus, A. E.** (2021, August). *Introduction to SOLID Start curriculum.* Introduced teachers to science curriculum and modeled engagement in science explorations for early elementary school teachers in Dearborn, MI. Half-day professional learning session with 20 elementary school teachers.

**Pikus, A. E.** (2021, July). *Using natural spaces to enhance children’s learning.* Designed and led a professional learning workshop on recognizing opportunities for learning in nature at Frazer Center Preschool in Atlanta, GA. Half-day professional learning session with 30 early childhood educators.

**Pikus, A. E.** (2018, August). *Using daily classroom routines to promote vocabulary growth in the preschool classroom.* Used active learning approaches to lead four teacher professional learning workshops for the Shiawassee Head Start Program in Owosso, MI. Full-day professional learning session with 80 early childhood educators.

**Service**

*International Service*

Member of Tanzania natural, outdoor playground design charrette, Spring 2022

*University Service*

Human Development and Family Studies representative, College of Social Science Dean’s Graduate Student Council Advisory Committee, 2022-2023

Judge of student research, Mid-Michigan Symposium for Undergraduate Research Experiences, 2019

Judge of student research, University Undergraduate Research and Arts Forum, 2018-2019

*Department of Human Development & Family Studies Service*

Member, Early Language and Literacy Lab, 2018-present

Member, Studying Early Education and Development area group, 2018-present

Discussion Leader, Research in School Contexts for incoming graduate candidates, 2019

Discussion Leader, Language and Literacy for incoming graduate candidates, 2019

**Professional Memberships**

Society for Research in Child Development: 2019 - Present

National Science Teaching Association: 2018 - Present

Natural Start Alliance: 2018 – Present

National Association for the Education of Young Children: 2016 - Present