

# Partnering for STEM Learning for Children & Their (Future) Teachers



THE UNIVERSITY OF  
**TENNESSEE**  
KNOXVILLE

**BIG ORANGE. BIG IDEAS.**

Fair Garden Preschool  
Knox County Schools

Frances K. Harper, *Assistant Professor*

Lynn Hodge, *Professor*

Shande King, *Doctoral Candidate*

Darelene Greene, *Instructional Coach*

Tiffany Watkins, *Principal*

# Enduring challenge in math teacher education

Despite valuable opportunities to develop teaching practices, **school-based experiences often contradict or fail to support university-based experiences** in mathematics teacher education (Zeichner, 2010).

Reimagining school-based experiences demands **bringing together various stakeholders – mathematics teacher educators, teachers, families, communities** – to work towards a shared vision for mathematics teaching and learning (AMTE, 2017).

# Bridging university, school & community

## **Partnership with University of Tennessee, Knoxville, Fair Garden Preschool & East TN STEM Hub**

- Respond to community-identified needs for STEM learning opportunities
- Various events facilitated by prospective teachers of mathematics in elementary and/or secondary programs, doctoral students and faculty members from the university
- Designed to be a sustainable, long-term partnership

# Partnerships for STEM Learning



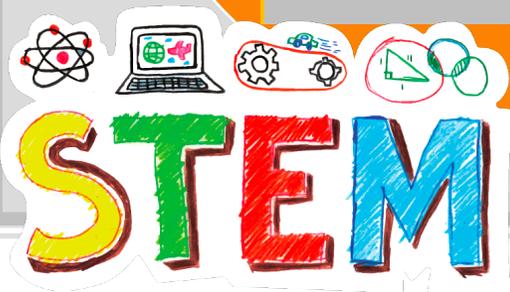
Students



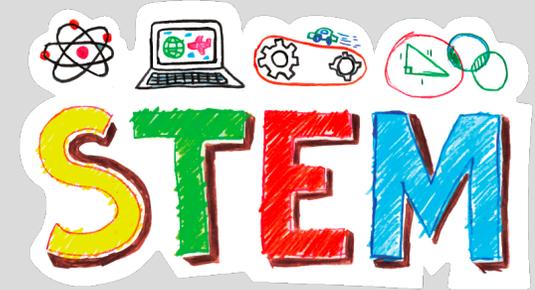
Teachers  
& Schools



Communities  
& Families



# Partnership for STEM Learning



Students



Teachers  
& Schools



Communities  
& Families



University

# University Collaborators

**CEEMS / East TN STEM Hub**

**Prospective Teachers**  
*Community engaged-teaching in elementary math methods*

**Family STEM Night**

**Students & families**  
**Local business owners**



**CEEMS / East TN STEM Hub**

**Prospective Teachers & Doctoral students**  
*Community-engaged teaching in elementary math methods*

**Read Across America & STEAM**

**Teachers & parent/guardians**  
**Students**



**CEEMS / East TN STEM Hub**

**University faculty member**

**Book Club**

**Teachers, Principal & Instructional coach**

# Fair Garden & Community Collaborators

# Reflect on engagement activities

- What was the potential of each activity to support STEM learning for historically marginalized students, either directly or indirectly?
- How did each activity benefit the different stakeholders?

# Whole group discussion

How did engagement activities mutually benefit various partners from the university, preschool, and community?

What other opportunities exist for supporting children's STEM learning within (or beyond) these activities?

# Thank you!

---

**Contact Information:**

Frances K. Harper

[francesharper@utk.edu](mailto:francesharper@utk.edu)

Lynn Hodge

[lhodge4@utk.edu](mailto:lhodge4@utk.edu)

