A PLACE for Service Learning: How a STEM grant program can model service learning opportunities

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A PLACE for Service Learning

How a STEM grant program can model service learning opportunities

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Learning Outcomes

● Discuss an example of informal STEM programming for adults
● Describe the benefits of a public/academic library partnership
● Explain how informal STEM programs can provide service learning opportunities
● Recognize the importance of effective science communication
What
- Public Libraries Advancing Community Engagement
- $1,000 Grant Awarded to Larry J. Ringer Library
- “Book Club + Science Cafe” Program Format

Who
- National Oceanic and Atmospheric Administration
- Science partner from Texas A&M University
- Bryan + College Station Public Library System
- Public Libraries across U.S. - LJR Library only in TX

When
- One Wednesday a month June - August 2017
- One theme per session: Change, Community, Strategy
Why Informal STEM?

Weather & Climate Knowledge
Community & University Ties
Increased Adult Participation
Science Partner

Dr. Gunnar Schade

- Department of Atmospheric Sciences, Texas A&M University
- Research Focus: Exchange of trace gases between the biosphere and the atmosphere

What does a scientist bring to the library?

- Adds legitimacy
- Strengthens ties between academia & public
- Access to larger pool of resources
- Go-to person for science-related questions
What worked? What didn’t?

Keep?

**Science Advisor**
Kept participants engaged and at ease, open

**Consistent Content**
Helped avoid negative reactions and kept sessions focused

Change?

**No book club portion**
this was intimidating to many; better as separate program
Public & Academic Collaborations
A space for service learning

Informal STEM service learning possibilities:
- Nature talks/demonstration
- Tech tutoring
- Science cafe
- Chemistry/physics demonstrations
- Financial literacy
- Oral histories
- English conversation circle
Population **Heterogeneity** in the **Epithelial** to **Mesenchymal** Transition Is Controlled by **NFAT** and Phosphorylated Sp1

**Epithelial** to **mesenchymal** transition (EMT) is an essential **differentiation** program during **tissue morphogenesis** and **remodeling**. **EMT** is **induced** by **soluble transforming** growth factor β (TGF-β) family members, and restricted by **vascular endothelial** growth factor family members.

**Tissue** formation and **remodeling** requires a complex and dynamic balance of **interactions** between **epithelial** cells, which **reside** on the surface, and **mesenchymal** cells that **reside** in the **tissue** interior. During **embryonic** development, **wound healing**, and cancer, **epithelial** cells transform into a **mesenchymal** cell to form new types of **tissues**.
Takeaway:
Informal STEM programming at public libraries creates entry points for service learning and develops effective science communicators.

Questions?
Sources