Virginia Informal Environments: Cultivating Vines of Commitment for STEM

Joanna K. Garner, Ph.D.
Associate Director for Program Development
The Center for Educational Partnerships
Darden College of Education
Old Dominion University
Educators came from informal learning environments across Virginia to redesign an exhibit to promote STEM

Participants were fifty seven educators from more than thirty informal learning environments
Step 1: Articulate mission and values in relation to STEM concepts
“List the values, commitments, or real world problems that your organization is committed to disseminating or addressing”

“Preservation, conservation, protecting the natural environment”

“Learning from history”
“List the applications of science, technology, engineering and math”

“Understanding the role of plants on earth and how they directly affect land always have affected the quality of life for people (also animals). This will add a science component to our historical narrative of the Eastern Shore.”

“Math of quilting”
Step 2: Articulate STEM concepts in experiences as “big ideas”
Transformative experiences involve active, motivated use of an idea to expand or change one’s perception of the world.
“How will your experience present concepts as powerful ideas?”

“How will your experience present concepts as powerful ideas?”

“Electro-magnetism can be used to save lives”

“After seeing the sky we could have in the planetarium and comparing to the sky we actually have in the observatory, guests will be inspired to investigate ways they can stop light pollution.”
Step 3: Generate ways for visitors to explore who they are while engaged with “big idea”
Identity involves exploration and commitment in self-perceptions, beliefs, goals, and intentions.

Because identity is role based, the role that the experience invites is important.
“How will your experience promote self-awareness in the role?”

“Promote self-awareness by understanding that children are an important part of the community and have a responsibility to the community.”

“The visitor as part of the Earth System”

“By trying to visualize themselves living in the past.”
The workshop ended with a poster session to unveil their designs and promote networking among organizations.
What commitments did participants make?

- Plans to use the identity model.
- Change concepts into big ideas.
- Intentions to present to their board.
- Use information for school field trip visitors.
- Take ideas for new exhibit back to their team.