Inquiry in the Community

Building Inquiry Science Capacity in Youth Programs

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BOOST Conference 2013

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Welcome!

At your tables, please share your…

- Name

- Affiliation & what brought you to this conference

- Answer to one check-in question (see table cards)
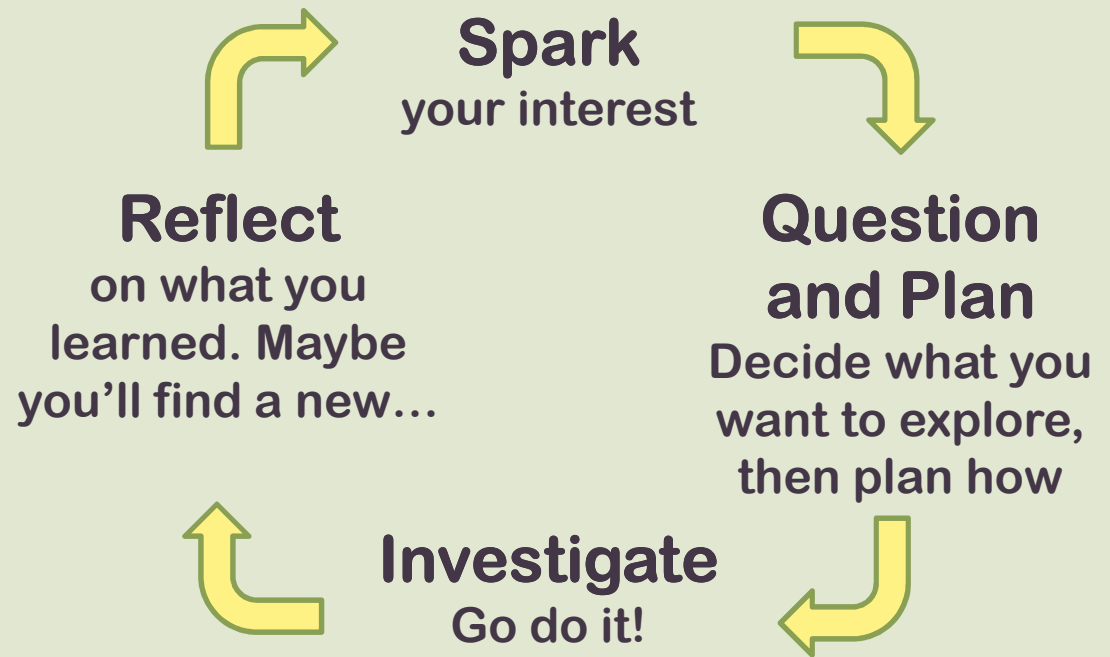
Today's Workshop

Today we will…

- Experience some project curriculum

- Identify behaviors & PD practices to foster inquiry

- Learn more about our project and resources

- Apply these concepts to your program

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What is Inquiry?

The approach is…
- Learner-led
- Experiential
- Cooperative

Spark
your interest

Question and Plan
Decide what you want to explore, then plan how

Investigate
Go do it!

Reflect
on what you learned. Maybe you'll find a new…

Identifying Inquiry

When did these inquiry practices happen?

- Cooperative learning

- Experiential

- Learner-led

Facilitating Inquiry

How did we make these inquiry practices happen?

(Hint: look at the instructions, how the facilitator interacted with you, the activity steps, supplies, and room set-up.)

- Cooperative learning

- Experiential

- Learner-led

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Best Practices

How do we get our staff/volunteers to do inquiry?

- Articulate what you want

- Model desired behaviors

- Fun first!

- Create buy-in

- Create cohorts

- Give opportunities for practice

- Celebrate!

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The Needs

- Increased access to science for girls

- Engage new audiences of adults in the delivery of science

- Tools to teach youth development best practices to volunteers and staff

The Idea

- **Leverage youth development volunteers to deliver science in existing settings (after-school sessions, meetings, camps, etc.)**

- **Use science inquiry to teach youth development concepts to volunteers**

- **Embed science into the everyday fabric of a youth development organization**

The Project

One project with two benefits!

- Extend informal science education

- Enable youth organizations to better achieve their mission

Three Project Deliverables

1. (Para-)professional development curriculum for volunteers and staff that work with youth
   - Focus on inquiry practices
   - Practices apply to any activity they might do

2. Organizational culture that supports science inquiry

3. A model that other organizations can adapt & adopt

Finding Leverage Points

What settings can you affect?	What behavior(s) would you want to model or teach in each setting?	What resources would you need to effect this change? (e.g., people, curriculum, supplies, money) Who might be your partners and allies?
Classes for volunteers	Positive experiences with inquiry science Inquiry facilitation skills Levels of learner control in activities	Class curriculum Activity supplies for classes Allies: Volunteers who facilitate these classes also need preparation to lead classes

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Apply It To Your Program

What settings can you affect?	What behavior(s) would you want to model or teach in each setting?	What resources would you need to effect this change? (e.g., people, curriculum, supplies, money) Who might be your partners and allies?

Share Your Idea

Please fill out an "idea sheet" and post it on the wall.

After the session, read them to gain inspiration from others' ideas…and maybe even find someone with whom you can collaborate!

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Contact Us!

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The Inquiry Cycle

- **Spark!** Introduce an activity to spark interest and curiosity in a subject. This can happen two ways: adults can introduce a topic, or youth can suggest it. Often, adults choose the topic to promote basic understanding of a skill or concept, or to make use of the activity instructions or supplies at hand. If a group is meeting regularly, the youth can provide input on the activities/topics they'd like to investigate.

- **Question & Plan** After youth have some experience with the skill or activity, they start thinking about how to make it their own. They decide what they want to do (What if I use different soil for my seeds? How can I get the robot to perform this task?) and plan how they want to do it.

- **Investigate** Youth get busy! They carry out their plan and see what happens.

- **Reflect** on what they did. They share what they did and learned with others: maybe other youth/adults in the group, their families, or the community. Reflections take many forms, from individual journaling to year-end showcases of their accomplishments.

What Does Inquiry Look Like?

- **Learner-Led** means that youth of every age take an active and grade-appropriate role in figuring out what their questions are, their plan for investigating them, and how they share their findings. Adults coach and partner with youth to support them in making decisions; how "hands-on" adults are depends on the activity and the kids' experience level.

- **Experiential** activities are hands-on and engage youth in ongoing cycles of action and reflection. When youth actively participate in meaningful activities and later reflect on them, they get a deeper understanding of concepts and mastery of skills.

- **Cooperative Learning** practices are designed to promote sharing of knowledge, skills, and learning in an atmosphere of respect and cooperation. Youth work together on goals that can only be accomplished with the help of others, and share their insights, stories, and lessons learned with each other.

When did these inquiry practices happen?

Cooperative Learning

Experiential

Learner-Led

How did we make these inquiry practices happen?

Look at how the facilitator gave instructions and interacted, the activity steps, available supplies, and the environment (room set-up, etc.).

Cooperative Learning

Experiential

Learner-Led

Best Practices in Professional Development for Inquiry Science

- Articulate the specific, desired behaviors you expect.
- Model the behaviors you want your staff/volunteers to do with kids.
- Fun first! This applies to adults in professional development sessions, just like kids.
- Create buy-in: know your audience's motivation, and demonstrate how these concepts help them meet their own personal and professional goals.
- Create cohorts: have your staff/volunteers learn new skills together.
- Give opportunities for practicing their new-found skills.
- Celebrate their accomplishments! Recognize when they've done something well.

About Inquiry in the Community

Why Inquiry in the Community?

Youth need access to high quality science experiences, particularly before they reach middle school. Without these opportunities, youth are far less likely to develop the science and critical thinking skills needed to participate in the jobs, civic discourses, and contemporary issues that will face this generation. Inquiry-based science activities are also uniquely suited to helping programs meet other critically important youth development outcomes.

What is Inquiry in the Community?

5 years ago, Girl Scouts of Western Washington and Seattle University teamed up to embed science inquiry into Girl Scouts' volunteer development system. Now, Girl Scout volunteers get training and support on how to do science inquiry with girls, which also teaches them how to lead engaging activities and build girls' leadership skills. This means girls get more access to science, volunteers feel more prepared to deliver on youth development outcomes, and Girl Scouts has more tools to achieve its mission. Everybody wins.

How does it work?

There are three major components to the Inquiry in the Community approach.

Workshop Curriculum

We adapted the Exploratorium's *Institute for Inquiry* curriculum to a youth development context. Then, we inserted it into the regular line-up of workshops for Girl Scout volunteers. Workshop modules include:
- An introduction to science inquiry
- Tools for each step in the inquiry cycle
- Balancing youth/adult control within an activity

Creating a Culture for Science

It's one thing to start teaching people how to use an approach; it's another to live it. We…
- Provided professional development for those who support "on-the-ground" volunteers: supervisors, staff, and key volunteers
- Integrated science inquiry practices into our volunteer management processes, like recruiting, training, and ongoing support meetings

A Model to Adapt and Adopt

We partnered with three other Girl Scout councils to learn how to help organizations adapt this model in a way that works for them. (Many thanks to Girl Scouts of California's Central Coast, Girl Scouts of Maine, and Girl Scouts of Oregon and Southwest Washington.) These lessons helped us create a replication guide for others (available August 2013).

Stephanie Lingwood & Jen Sorensen, Ph.D
Inquiry in the Community is a project of Girl Scouts of Western Washington and Seattle University   3

What this looks like in practice: Girl Scouts of Western Washington

What settings can you affect?	*What behavior(s) would you want to model or teach in each setting?*	*What resources would you need to effect this change? (e.g., people, curriculum, supplies, money)* *Who might be your partners and allies?*
Classes for volunteers	Positive experiences with inquiry science Inquiry facilitation skills Levels of learner control in activities	Class curriculum Activity supplies for classes Allies: Volunteers who facilitate these classes also need preparation to lead classes
Monthly volunteer meetings	Specific inquiry facilitation skills: planning investigations, reflecting on investigations Exposure to science activity ideas	Inquiry science facilitation tips to share Science activity guides Allies: volunteers who run the volunteer meetings
Staff who provide ongoing coaching to volunteers	Adult behaviors that create a learner-led environment Tools to manage cooperative learning	Professional development in inquiry science for staff Allies: staff in volunteer-serving departments
Activities at girl and adult recruiting events	Model inquiry science activities and practices	Inquiry science activities that are quick, cheap, branded, and that fit a variety of settings Allies: staff/volunteers that host girl and adult recruiting events
Position descriptions for volunteers and interview questions	Position description: open-ended questioning, helping girls plan investigations, reflection Interview questions: experience with learner-led activities; tolerance for ambiguity	Revised position descriptions and interview questions Allies: staff/volunteers who conduct interviews and place volunteers

What can you do in your program?

What settings can you affect?	What behavior(s) would you want to model or teach in each setting?	What resources would you need to effect this change? (e.g., people, curriculum, supplies, money) Who might be your partners and allies?