Reflective Practice and Action Research as a Means for Growing a Healthy Staff Community

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Today we will....

- Learn about what action research is by DOING it (through video).
- Hear stories from New England Aquarium & Providence Children’s Museum as to how we’ve implemented reflective practice strategies
- Reflective Discussion
By the end we hope we’ve addressed:

• What is action research? How can it enhance working in an informal education setting?

• Building a shared language together is key to developing a shared understanding across departments, staff and volunteers.

• The practice of making learning visible helps build that language which builds capacity to reflect and think creatively about your work.

• More reflective practitioners are more effective at connecting visitors/program participants/colleagues with your shared mission.

• There are multiple ways to do this, and they don’t all need a grant!
What is action research?

Action research: the study of one’s own practice, guided by questions that arise from everyday activities and dilemmas.

Often a good first step is to follow what was surprising to you and then finding someone to chat with.

Advantages of Action Research
(Reason and Bradbury, 2006; Ballenger, 1999 and 2009)

- Theories and knowledge are generated from research grounded in the realities of educational practice.
- Practitioners become collaborators in research by investigating their own problems and are more likely to facilitate change based on the knowledge they create.
Action Research… in ACTION!

Adapt Girls Rotation_mpeg2video.mpg
New England Aquarium
Boston, MA

The Aquarium is redefining what it means to be an aquarium: combining education, entertainment and action to address the most challenging problems facing the ocean. Through a wide variety of educational programs and conservation initiatives, we make a lasting impact globally.

- Opened in 1969
- 1.3 million annual visitors
- 2013 Operating Revenue: $40.3 million
- 225 full time staff, 60 part time, 60 seasonal or temporary
- Education Department: 21 full time and 14 part-time staff
- School Outreach: 47,000 students reached in 2013
What Does an New England Aquarium Outreach Look Like?
New England Aquarium Action Research

“Looking out as a way to reflect in”

Will looking closely at student engagement on Outreach Programs help to create a more reflective staff?
We hoped to:

• Identify observable engagement behaviors on Outreach programs, and define what we wanted to see on programs.

• Create a shared language about these behaviors among all program staff

• Encourage a culture where educators engage each other about what they see and how they can improve their own teaching
So who did we need in the conversation? And how do we facilitate it with limited time and money?

PT program facilitators
• What they felt were signs of engagement that led them to feel successful
• Start publicly reflecting on surprising moments in their daily work

FT Ed Staff
• What does research say about engagement?
• How can we create a tool that could help us measure engagement on programs?

Everyone: What do we WANT to see in our outreach programs?
Making reflective practice public

REFLECTIONS  Date: 5/28
Educator name: Nick P.

What surprised you during today’s program?
I was a bit surprised and concerned about our workspace (school lobby) and whether we would be able to keep students engaged and not distracted. It proved to be a great workspace.

How does that relate to what you were/are doing as an educator?
Continues to emphasize the importance of being able to adapt within all parts of our programs. You can never truly predict all the variables that contribute to defining a program, but keeping an open mind is important.

If you were teaching with someone else, what do they think about it?
I was little surprised at first but I’ve seen more awkward spaces. I think we definitely do always need to be flexible and be ready to walk if it isn’t going to work. Need to make sure instructors lead to best experiences today.

REFLECTIONS  Date: 5/8/14
Educator name: Heather

What surprised you during today’s program?
Some of the children were trying to “open” or “pull apart” mussels and clams.

How does that relate to what you were/are doing as an educator?
Teaching the students about animal safety and why the mussels, clams etc are closed, what would happen if/when they’re open.

If you were teaching with someone else, what do they think about it?
Yeah... I always try to promote that: “Even though they don’t look like it, these are animals... to be alive... please be gentle... can’t it... it doesn’t look like it... it’s on an animal.”

But once the grade ten students are still relying on “alive” ad “not alive.”
What was actually happening on our programs?

• Polled educators to know what cues led them to believe they had an excellent program, and then had them rate top 10 behaviors

• With support from our ZAARC grant we were able to videotape a handful of programs, to help us slow down time and observe the students.
Collecting data... and data... and more data!

<table>
<thead>
<tr>
<th>Time marker</th>
<th>9:16</th>
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<tbody>
<tr>
<td>Intro</td>
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- looking at friends when raising hands
- are we putting sand on floor?
- mimic!!
- smiling (lots)
- beach sound
- "I saw a sea gull eat a hot dog"
- raised hands
- wiggling w/hands on head
- pretending to do activities before Sam started them
- referenced storm Sandy - when talking about how water got to rocks
- looking at Sam
- looking at animals in background
- lots of mimicry
- "Oh I know!" - at various dates
- where clam lives - as Sam jokes with them - many say tide pool quietly
- get up to see mussels by mussel
- thread more closely
- used word "golden" and they all became excited

Verbal cues: anticipation, agency/compare/connections to prior knowledge, talk about content while looking away.

- First student to answer:
- One student
- Another student
- Again student raise hand
- First student
- Students:
- Student 1
- Student 2
- All students
- It's "like Prompting"
- What did I learn?
- "I learn"
- "I learn"

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Time marker: 9:19

- "sea star"
- Sam:
- Tough rules

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Time marker: 9:18

- Clam:
- Timing mark: 9:16
- Intro
- Prompting
- Narrator:
- "It's like Prompting"
- "What did I learn?"
- "I learn"
- "I learn"

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Time marker: 9:17

- Sea star
- Sam:
- Clam:
- Tough rules
- Timing mark: 9:18

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Time marker: 9:16

- Intro
- Prompting
- Narrator:
- "It's like Prompting"
- "What did I learn?"
- "I learn"
- "I learn"

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Time marker: 9:15

- Clam
- Sea star
- Sea star
Making meaning of the data:

- Emotional Response
  - Exclamations
  - Giggles / Laughter

- Knowledge Building
  - Connections
  - Questions
  - Content statements

- Physical Engagement + Body Language
  - Mimesis
  - Leaning in (attentiveness)

- Building Rapport
  - Following Educ. direction
  - Trust
  - Respect ‘rules’
  - Sharing stories

(Genuine Positive) Verbal
Observation Tool Categories:
We found that Behavior Engagement cues fall into four categories

**Emotional Response**
Emotional responses are verbal exclamations that are spontaneous and are excited, genuine response to whatever is happening in the program.

Examples: giggles/laughs; explanations like ‘cool,’ ‘whoa’ or ‘eww’

**Knowledge Building**
Knowledge Building is observable questions or content statements that the children share with each other or the educator that illustrate an understanding and make connections to prior knowledge.

Examples: Share a story from their personal life to connect to topic; sharing observations to each other; Recalling prior knowledge; making comparisons (“that’s like…” “it looks like…”); thoughtful questions
Observation Tool Categories:
We found that Behavior Engagement cues fall into four categories

**Physical Engagement and Body Language**
Children exhibiting physical engagement will be physically responsive to experience and educator cues. (This goes beyond basic attentiveness.)

Examples: responding to educator prompts with movement (raised hands); mimicry; leaning in; following educator with eyes or body

**Educator Rapport**
Children have quickly established rapport with the educator and show respect for them by following directions and rules. Educator will respond to students and they will respond back. Students will maintain involvement in the program and seek out educator to ask questions or share stories. This may look different in every classroom.

Examples: Rapid response to questions posed; seek out educator with questions

**We understand that some behaviors could fall into multiple categories and that is OK!**
# Engagement Behavior Matrix

<table>
<thead>
<tr>
<th></th>
<th>Knowledge Building</th>
<th>Physical Engagement cues</th>
<th>Building Rapport</th>
<th>Spontaneous Emotional Response</th>
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<tbody>
<tr>
<td></td>
<td>Making connections and</td>
<td>Body language and showing</td>
<td>Students display evidence of relationship building</td>
<td>Exclamations and laughter</td>
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<td></td>
<td>thoughtful questions</td>
<td>engaged with “stuff”</td>
<td>with educator</td>
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How We Have Used This Tool and Where We are Going

• My perspective using the tool
• Training for staff educators
• Evaluation for partnership programming
• Teen interns
• Working out kinks of existing programming
Main Take-Aways for NEAq

• The process of exploring and learning together between full time and part time staff rewarding, and it was important that we didn’t already have the answers.

• Over multiple conversations and tools we developed a shared language, that helped all participants articulate and be understood, and have deeper conversations than previously.

• While we had grant money to videotape, this can be done without a grant. We are launching a new dialog this fall on age appropriate environmental messaging as a group.
Providence Children’s Museum
Q&A: Questions for us?

Reflective Discussion:

• What do you find interesting/relevant to your work?
• Who do you need to start reflecting with?
• What types of tools would you start with to get the conversation started?