Sciencenter

Scorecard for Empowering Youth through Science

Assessing exhibits/programs/guest relations in empowering young people through STEM

Name of Experience: _____

Type: ☐ Exhibit ☐ Prog ☐ Guest Rel **Target Audience:** ☐ EE ☐YS ☐FSL ☐_____

Scale for empowering: (3)=Strongly (2)=Moderately (1)=Slightly (0)=No Effect (-1)=Discourages

Goal	Elements of Empowerment	Rating	Comments
	Discovery & Curiosity Awe & wonder for science and new things Wanting to return or learn more		
	Creativity Showing imagination, open-ended exploration, trying alternatives		
	Confidence I can learn something or make a difference Willingness to try new, risky challenges		
	Collaboration Working together on a challenge Sharing discoveries, learning from others		
	Critical Thinking Seeking information, testing hypotheses, and weighing alternatives before deciding		
	Communication Using appropriate tools, words, structure, and balance in presenting info and ideas		
	Leadership & Responsibility Taking charge of a group, making decisions about group activities		
	← POSSIBLE / RATING→		

Rev. 10/09/2013

Suggestions:

	Early Explorers (0-5)		Young Scientists (5-11)		Future Science Leaders (11-14)
Education Activities & Events	**Curiosity** *(ask questions)* **Creativity** *(encourage imagination)* **Concepts** *(basic science)* **Communication** *(asking "how" Qs)* **Discovery** *(wonder of new things)* **Confidence** *(Acknowledge accomplishments, try new things)*	+	**Increased Learning** *(STEM content)* **Collaboration** *(group interaction)* **Critical Thinking** *(testing approaches and hypotheses)* **Confidence** *(opportunities for success, try new things)*	+	**Increased Learning** *(learning, using STEM)* **Critical Thinking** *(weigh alternatives)* **Communication** *(disseminating science information, listening)* **Leadership** *(self discovery)* **Responsibility** *(ownership)* **Confidence** *("you can make a difference")*
Exhibits	**Curiosity** *(pose questions)* **Creativity** *(open exploration)* **Concepts** *(basic science)*	+	**Increased Learning** *(STEM content)* **Confidence** *(problem solving)* **Collaboration** *(multiple users)* **Critical Thinking** *(multiple variables and outcomes)* **Encouragement** *(take action)* **Communication** *(multiple users)* **Self Discovery** *(learning a new skill or attribute)*	+	
Guest Relations	**Welcoming & Supportive** **Curiosity** *(ask questions)* **Listen** **Facilitate Discovery** **Acknowledge Accomplishments**	+	**Engage** *(open-ended questions)* **Encourage Action**	+	**Reassure** **Instill Confidence**

Interactivity 2016
Building Exhibits In-House: Development, Design, Prototyping
Things to consider when developing your project partnerships
Peter Crabbe
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Partners for early in the process.

Gathering input about community needs

- Museum board members are often deeply connected to your community and may have specialized expertise useful to a project
- Community leaders: city officials, business representatives, community groups such as public health leaders.
- Public school leaders
- Staff: Training begins with front line staff gathering survey information and opinions from guests
- Guests and museum members
- Key volunteer groups

Partners for experience development and design.

- Volunteers: Volunteers tend to come from a broad diversity of backgrounds and life experiences
- Board: This may vary from project to project and with board rotation
- Guests
- Community stakeholders: For example; if your project is about architecture it is important to develop dialogue with experts in the Architecture field
- Ongoing conversation with community groups who are vested stakeholders in your project
- External Advisories: These tend to work better with plenty of diversity. For example, only inviting architects to a charrette for an architecture exhibit with not be as effective as having representatives from other disciplines – education, building, and construction, child development, etc.
- Include people who are hands-on. For example, it would be beneficial to invite a plumber to and advisory for a water exhibit.
- Staff training starts with the early stages of experience development

- Leave time: Whenever possible plan your community engagement into the schedule. It can be difficult but is always worth the effort.

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- Get back to people and let them know what you heard them say. It may differ from what they meant.

- Food coffee and gratitude go a long way

- Continue to cultivate people who become enthusiastic about your project and museum. It could be the "beginning of a beautiful friendship."

Tough Art Artist Observation Worksheet*

UPCLOSE
UNIVERSITY OF PITTSBURGH
CENTER FOR LEARNING IN
OUT OF SCHOOL ENVIRONMENTS

children's museum
PITTSBURGH

Take 10 minutes to closely observe an exhibit area and focus on one or two children. Identify, circle and jot down specific examples of children engaging in the targeted developmental behaviors below.

Following this observation, take some time to elaborate on these jottings, and note the ways in which these observations inform and hold potential for your work of art/design.

These 20 minutes (approx.) represent a cycle of observation and reflection. As your work develops, feel encouraged to engage in more cycles of observation and reflection as a part of your prototyping process.

Age of Child:

Physicality			
Gross Motor Large movements that an individual performs with most of their body	**Examples** • Rolling over • Sitting • Reaching • Pulling • Standing • Crawling • Scooting • Walking • Running • Jumping • Skipping • Hopping • Galloping	**Notes & Examples of these behaviors**	**Take Away** (How does this inform you project?)
Fine Motor Involve the coordination of small muscles in the hands and fingers.	**Examples** • Hand-eye coordination • Grabbing/Grasping • Squeezing • Reaching • Pointing • Poking • Button Pushing • Manipulating objects • Tool use	**Notes & Examples of these behaviors**	**Take Away** (How does this inform you project?)

* This is an illustrative (not comprehensive) example of tools created to assist Tough Artists in developing observation and reflective practice skills. This is one in a series of tools, which also include aspects of child and family development such as social interaction and emotional expression.