Playing with the Future: Creating exhibits and programs that immerse visitors in futures thinking

ASTC 2019
Preconference workshop
Presenters

**Rae** Ostman, ASU

**Peter** Bishop, Teach the Future

**Joe** Tankersley, Unique Visions

**Meredith** Doby, DoSeum
Workshop agenda

INTRO TO FUTURES THINKING IN MUSEUMS

1:30  Welcome and introductions
1:40  Joe: The Gift
2:00  Peter: Theory, ideas and practices
      Joe: Immersive experiences and storytelling
2:30  Discussion
2:45  Meredith: *Dream Tomorrow Today* exhibition
      Rae: *Sustainable Futures* programs

RAPID PROTOTYPING ACTIVITY

3:10  Brainstorm ideas in small groups
3:30  Check in: Sharing and feedback
4:00  Prototype ideas
4:45  Presentations
5:15  Wrap up and discussion
5:30  Adjourn

**GOAL:** Develop and share a concept for a futures-oriented museum experience.
Learning objectives for workshop

1. Familiarity with the goals, methods, and practices of futures studies and foresight.
2. Understanding of the ways science centers might apply these methods and practices in their STEM learning experiences.
3. Awareness of the rationale for and potential impact of integrating futures thinking into informal STEM learning.
JOE TANKERSLEY
Writer and futurist, Unique Visions
Former Imagineer, Walt Disney
1. Select someone you know
2. Imagine it is their birthday in 2040
3. Create the perfect gift
   object or experience
   not currently available
4. Why is this the perfect gift for them?

#reimaginingourtomorrows
Perfect Gift 2040

X-lenses subscription for my daughter Allison, 44.

These mixed reality soft contacts are easy to wear and recyclable. Access AR or VR with a simple blink.

Perfect gift because: She hates the clunky look of her Facebook/Gucci AR glasses.

Uses: As a fundraiser for nonprofits she can instantly call up names and donor stats of everyone she meets.

Or access her favorite virtual worlds when she needs a little down time.

#reimaginingourtomorrows
PETER BISHOP

Founder and Executive Director, Teach the Future
Retired Associate Professor of Strategic Foresight and former Director of the graduate program in Futures Studies, University of Houston
Preparing Students for the Future by Actually Teaching Them about the Future!

Peter Bishop
Exec Director
Sacramento CA
Learning about the Future
The Predictable Future

The future as a river or a road or even a roller coaster, following one path and leading to a specific point.
The Inevitable Future

History

The future as a sequence of unchanging causes and effects
The Uncertain Future

Anthropology
Sociology
Economics
Political Science

The future as a foggy road,
largely unknowable and unpredictable.
The Contingent Future

The future as a *random* process,
completely unknowable and unpredictable.
The Chosen Future

The future as a **plan** or a **blueprint**, the result of our own choices and efforts
Confused?

- Is the future...
  - predictable and inevitable or
  - unpredictable and random?
- Is the future determined or chosen?
- Is the future even understandable?
The future is many, not one.

- **The Expected Future**
  - Where we are headed
  - The future if everything continues as it has
  - The result of conditions and trends (momentum)

- **The Alternative Futures**
  - What might happen instead
  - The set of plausible futures if something less likely or unexpected happens
  - The result of events and issues (contingencies)

- **The Preferred Future(s)**
  - What we want to happen
  - Either the expected or any of the alternative futures that is preferable
  - The result of our vision, goals, plans and actions (agency)
The Cone of Plausibility

The Future is many, not one.

Vision

Expected

Alternatives

Limit of Plausibility

Present

Past

Implications

Vision is the preferred future

Source: Charles Taylor, Army War College
The Changing Conditions of Change

Foresight...

Rate of pace of change increasing

Complex convergence of technologies and convergence of risks

Opportunities

Threats

... getting harder

So we need to get better at it!

Is the Traditional Approach to the Future Adequate?

• The traditional approach to the future is largely quantitative, extrapolative, causal, linear, and predictable.

• Is that adequate in a rapidly changing, complex world?

• What if the future is inherently uncertain and contingent?

• What do we teach about the future then?
Change (the future) comes from the world and from ourselves – Inbound and Outbound.
It usually occurs slowly, but sometimes disruptively, opening and closing eras.
Trends occur within the current era. Disruptions end the current era and open the next one.
Scan broadly.

Connect the dots.
The Futures are many, not one. Think alternatives and contingencies.
Tell stories and dream dreams that explore possibilities.
Anticipate!

Influence!
Design Questions

What is happening today? – Present

What happened to make it that way? – Past

What do you expect to happen? – Expected future

What might happen instead? – Alternative futures

What do you want to happen? – Preferred future(s)

What are you going to do about it? -- Plans
What do students learn or experience at a science center?

Science Centers...

- **Connect** people with science
- Provide first hand **experience**
- Encourage **curiosity**

http://www.astc.org/about-astc/about-science-centers/
What do students learn or experience at a science center?

Science Centers...

- **Connect** people with science *and its future*
- Provide first hand **experience** *of the future*
- Encourage **curiosity** *about the future*

http://www.astc.org/about-astc/about-science-centers/
We teach the future as well as the past.

www.TeachTheFuture.org

peter@teachthefuture.org

@teachfutures, #teachfutures

Prepare students for tomorrow. Teach the Future today.
JOE TANKERSLEY
Writer and futurist, Unique Visions
Former Imagineer, Walt Disney
From Flying Pigs to the Future of Work

Using Story to Entertain, Enlighten & Empower
Dessert Before Broccoli
Keep the Message Simple
Apply Learning Immediately
Encourage Creative Collaboration
The Future is About People
Guiding Principles for Creating Immersive Futures

1. Dessert Before Broccoli
2. Keep the Message Simple
3. Apply Learning Immediately
4. Encourage Creative Collaboration
5. The Future is About People

STORY IS YOUR MOST POWERFUL TOOL
MEREDITH DOBY
Vice President of Exhibits, The DoSeum
Meredith Doby
Vice President of Exhibits
The DoSeum
Future Focus in Children’s Museums
Mission

In this exhibit visitors will be empowered to imagine a desired future, and then begin to practice the skills needed to achieve their future.

Big Idea

I can shape the future! And here’s how...

Primary Audience:
Children 5 - 11 years old + caregivers
Educational Goals

• Feel their vision of the future is important and relevant.
• Feel empowered

• Develop future thinking skills:
  • Collaboration
  • Problem solving
  • Maker-based learning
  • Understanding actions and consequences
  • Forecasting
  • Empathy
Time Machine

What do you want your future to look like? Let’s explore the past & present through the eyes of the future...

Designed by Artist in Residence
Calder Kamin
Imagine the Possibilities!

Nature doesn’t waste.

Can we change as we grow?
Sliding Through a Fruit Field

SLIDE YOUR WAY INTO THE FUTURE!
Sketch Town

KID colored FUTURE CITY!

From TeamLab
Be your Future Career

HUMANITARIAN INVENTOR
3D FLAVORIST
ROBOTIC ZOOLOGIST
ASTRO-CULINARY ARTIST
will your city survive a flood? Do you have all the values?
Design Lab
Designed by Artist in Residence
Gregorio Mannino

What does the future need?
WHAT DO YOU WANT FOR THE FUTURE?
Under the Lens

What do you see when you look into the microscope? What colors and shapes? Draw what you see.

Health Robots

Design a robot for the Future. What is its purpose? How can it help people?

Just as Dandelion seeds float through the air, my DANDY FLIERS carry people through the skies on short trips through City skies.

Vor Torb (1) Beezer (2) Healthcare
It entertains people when in the hospital or quarantined in their home.
Call to Action
Cards connect kids to local community partners to make their first step towards their future!

Meet a local artist.

Reach for the stars!

Mini Art Museum
http://www.miniartmuseum.org/
Gabriela Santiago
gabriela@sparepartssa.org

Scobee Education Center Planetarium
http://sacscobee.org
Michelle Risse, Planetarium Coordinator
sac-ScobeeCtr@alamo.edu
Did kids develop future thinking skills in the exhibition?

Percentage of Guests Exhibiting Evidence of Learning Goals

- Evidence of Next Step: 15%
- Empathy: 27%
- Forecasting: 25%
- Making Predictions / Actions & Consequences: 53%
- Problem Solving: 45%
- Empowerment: 78%
- Maker Based Learning: 29%
Did kids develop future thinking skills in the exhibition?

When visiting Dream Tomorrow Today did you witness in your group any of these behaviors or skills? Check all that apply.

79 responses

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joyful Learning</td>
<td>67</td>
<td>84.8%</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>45</td>
<td>57%</td>
</tr>
<tr>
<td>Making Predictions about the future</td>
<td>16</td>
<td>20.3%</td>
</tr>
<tr>
<td>Discussing future ideas</td>
<td>27</td>
<td>34.2%</td>
</tr>
<tr>
<td>Empathy</td>
<td>20</td>
<td>25.3%</td>
</tr>
</tbody>
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RAE OSTMAN
Co-director, Center for Innovation in Informal STEM Learning, Arizona State University
Director, National Informal STEM Education Network
Purpose: Support museums and similar cultural organizations in their efforts to integrate sustainability into their program and operations.

Approach: Provide professional development and programmatic resources that share and develop sustainability science and practice.

Strategic outcome: Leverage the power of museums around the world to help millions of people understand the social, environmental, and economic impact of human behavior on the planet’s future.
Public learning objectives

Participants will demonstrate an increased:

• **Understanding of big ideas** related to sustainable futures and key concepts in sustainability science and practice ("sustainability")

• **Awareness of the relevance** of sustainability to their lives and issues they care about

• **Sense of self-efficacy** related to sustainability, including the ability to take sustainable actions and participate in conversations about sustainable futures
Sustainability

“meets the needs of the present without compromising the ability of future generations to meet their own needs.”


Education for sustainability

“cultivates individual and collective potential ... to increase the possibility that humans and other life can flourish on Earth now and into the future.”

Sustainability

- Economy
- Society
- Environment
Mirakan, Japan
Future building workshop
Museum of Life and Science, USA (in development)
Science and society forum
Walking Mountains Science Center, USA
Climate action plan
TELUS Spark Science Centre, Canada
Energy transitions
Identifying and solving problems in our community

➤ What problem do you want to solve?

Creating the future we want to live in

➤ What change do you want to see?

Doing things that are good for people and nature

➤ What can you do?
Acknowledgements

The Rob and Melani Walton Sustainability in Science and Technology Museums program is supported through funding from The Rob and Melani Walton Foundation.
American Alliance of Museums, Center for the Future of Museums: https://www.aam-us.org/programs/center-for-the-future-of-museums/

Teach the Future: http://www.teachthefuture.org/
Rapid prototyping

Work with others at your table to develop a concept for a futures-related experience:

Consider:

• Your purpose or mission
• Your participant learning objectives
• The experience you imagine
Rapid prototyping

Work with others at your table to develop a storyboard, prototype, rich description...or some other way to engage us in an aspect of your concept.

At 4:45, each group will present their work. We’ll spend around five minutes total on each idea. Aim for:

• 3 minutes presenting
• 2 minutes to hear from the rest of us
Choose 2-3 people who are going to act as though they’ve just gone through your experience. What did they do? What were they excited about and what did they learn?

For our debrief, we’ll interview you as though you’re on FuturesTV.
Closing thoughts

Share final thoughts such as:
• How you will take what you’ve learned back to your organization
• How your ideas have changed or developed as a result of this workshop
• What you now feel empowered or motivated to do
• What are some challenges you can see? What barriers might you run into
Thank you!