# **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

# Perfect Gift 2040

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

**Statistics Class**

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

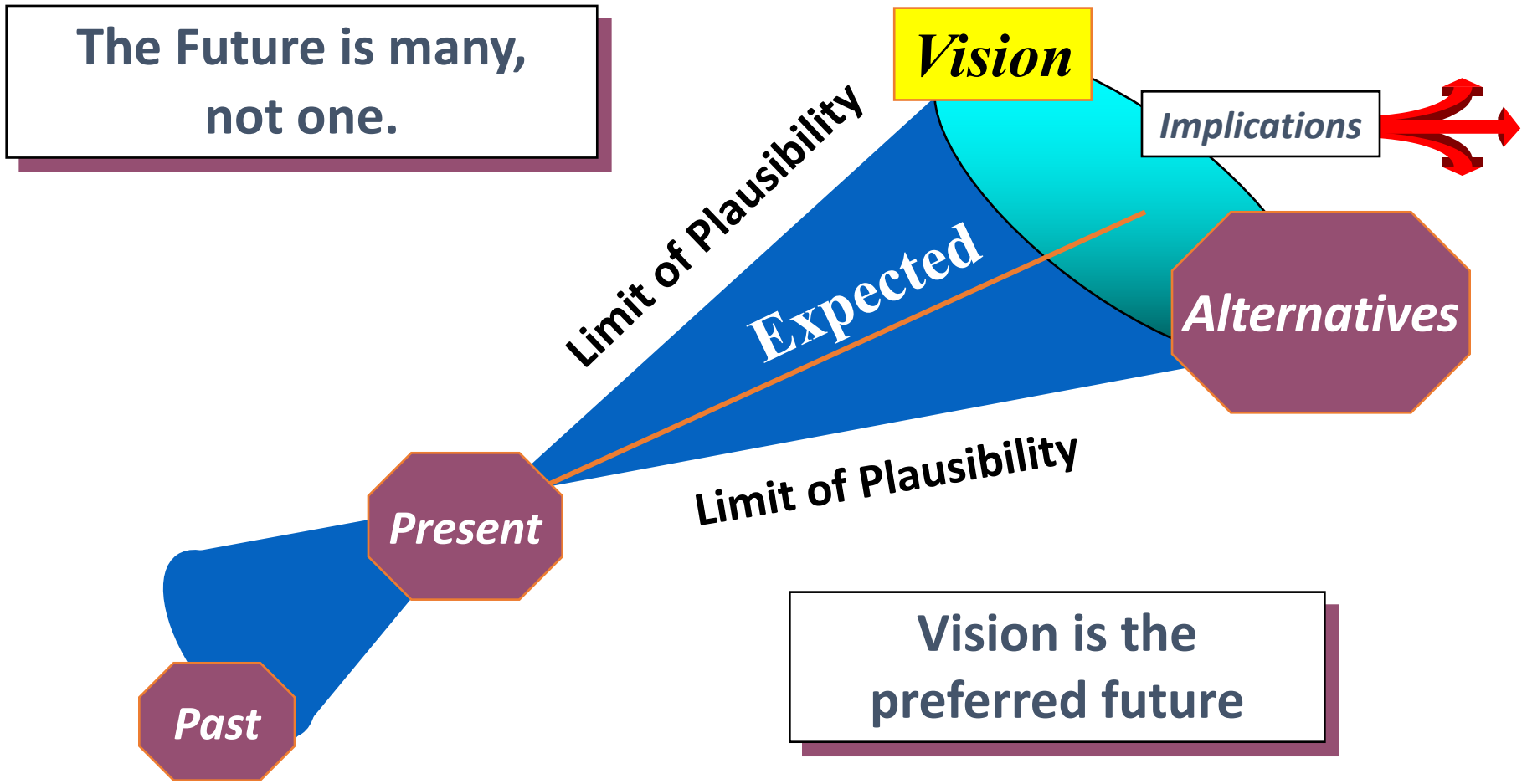
# Confused?

- 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.

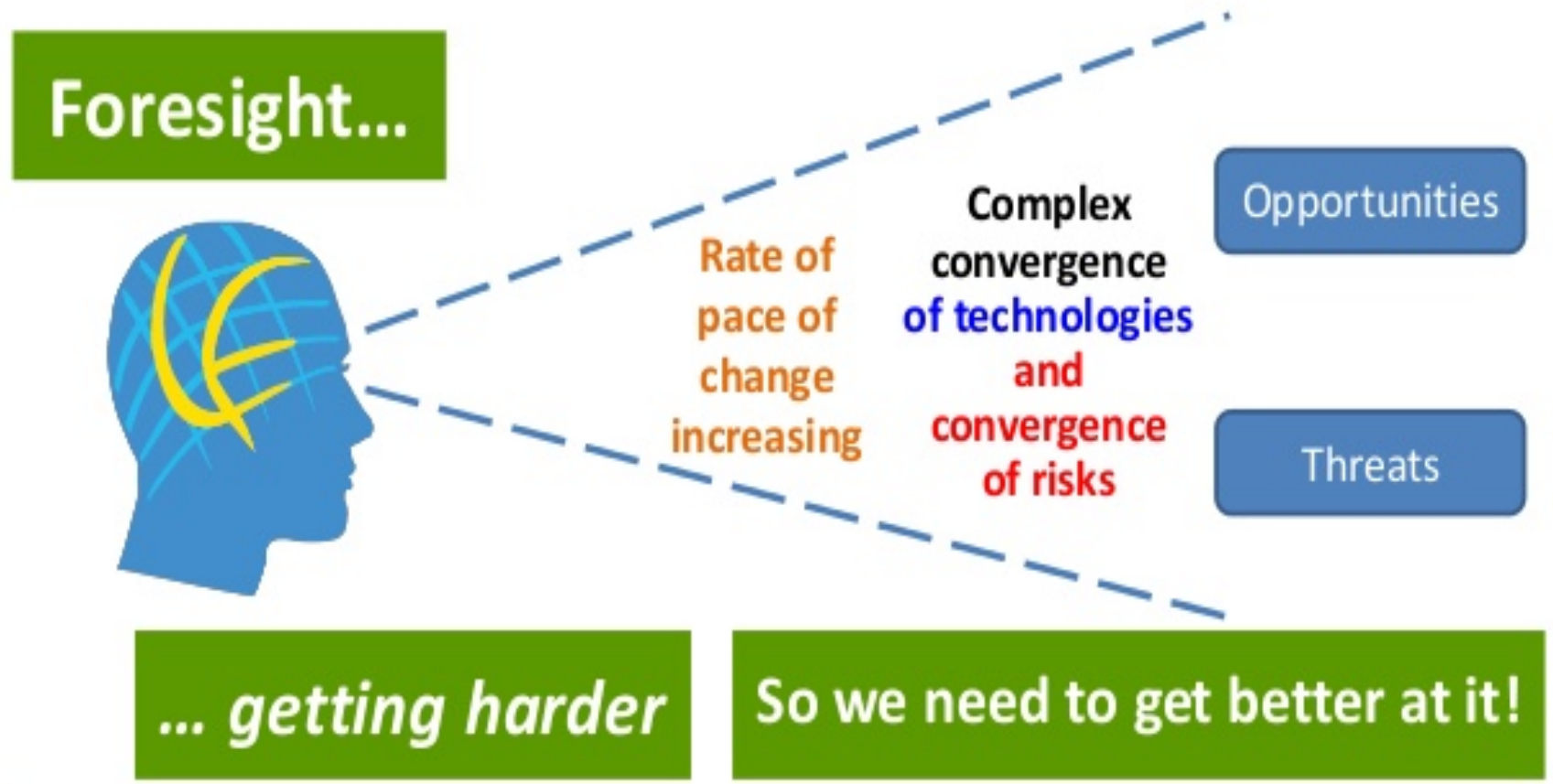
- **The Expected Future**
  - Where we are headed
  - The future if everything continues as it has
  - The result of conditions and trends (momentum)
- **The Alternative Futures**
  - What might happen instead
  - The set of plausible futures if something less likely or unexpected happens
  - The result 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




Source: Charles Taylor, Army War College

# The Changing Conditions of Change




http://www.slideshare.net/DeltaWisdom/dw-wts-2015-augmented-reality

# 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


# THE DO SEUM™

SAN ANTONIO'S
MUSEUM FOR KIDS

## DREAM TOMORROW TODAY

by The DoSeum

# Future Focus in Children's Museums

# Community Involvement

Brainstorming Session

# 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

# Community Involvement

Community Conversations

# 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

# City Lab AR

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

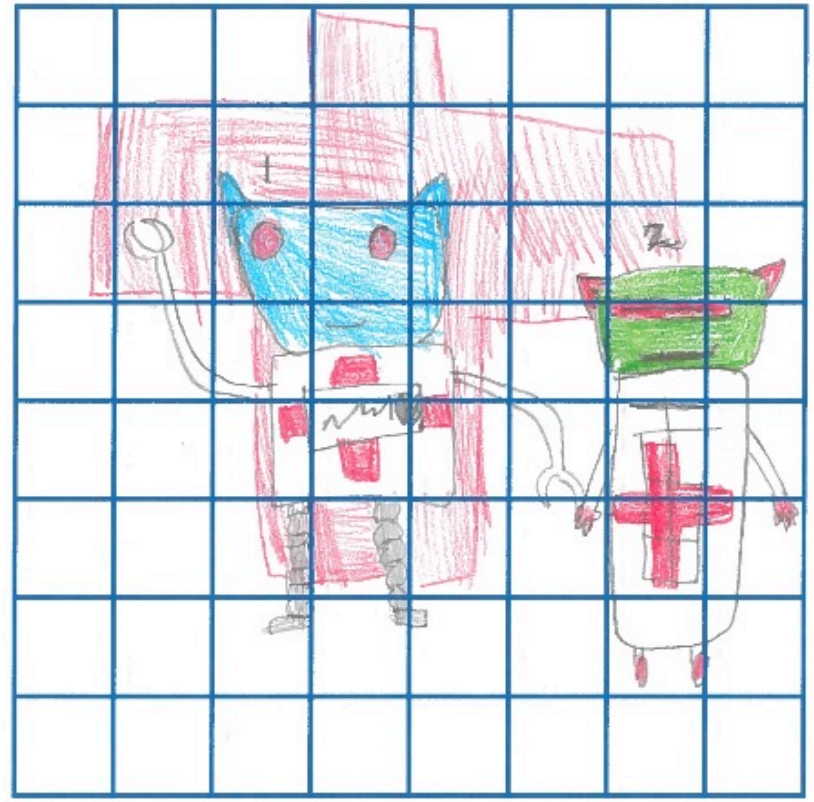
What do you see when you look into the microscope? What colors and shapes?

Draw what you see.


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

# Health Robots

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



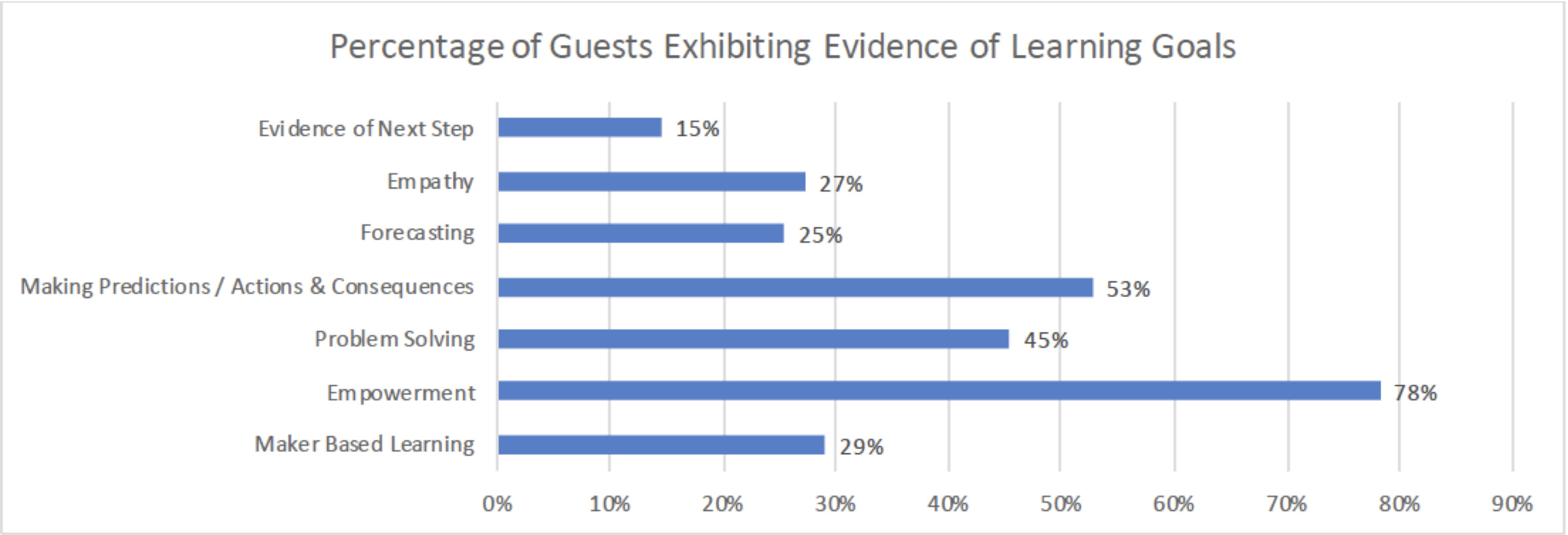
Vortorb (1) Beezer (2) Healthcare
It entertains people when in the hospital or quarantined in their home

# Call to Action

Cards connect kids to local community partners
to make their first step towards their future!



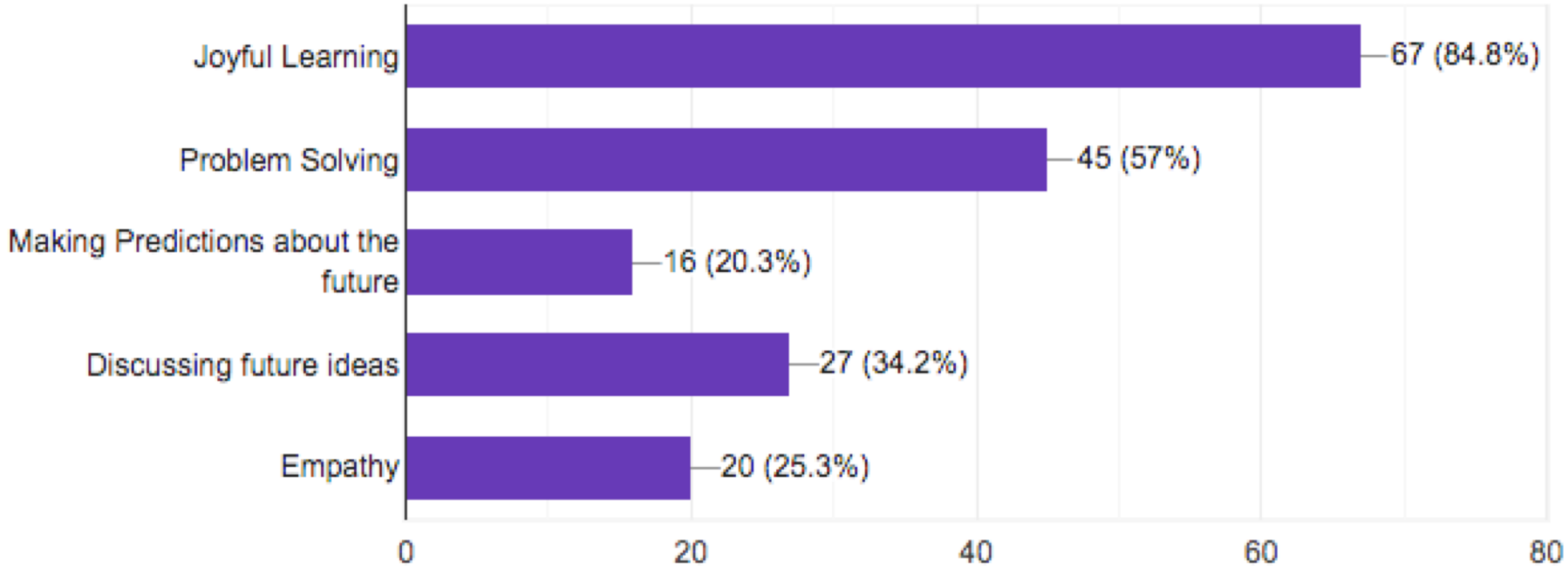

# Did kids develop future thinking skills in the exhibition?



# 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



# RAE OSTMAN

Co-director, Center for Innovation in Informal STEM Learning, Arizona State University

Director, National Informal STEM Education Network

SUSTAINABLE FUTURES

**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.

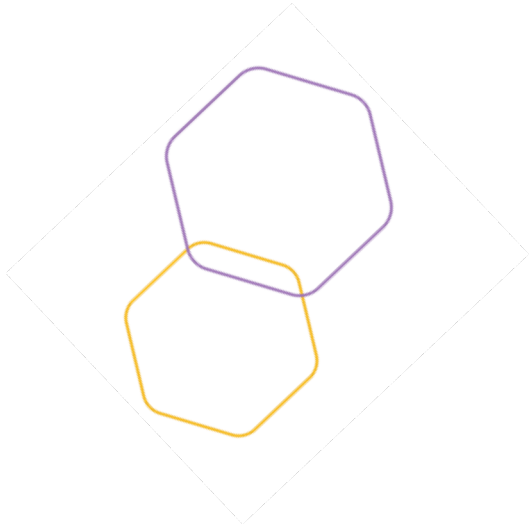
**Strategic outcome:** Leverage the power of museums around the world to help millions of people understand the social, environmental, and economic impact of human behavior on the planet's future.

# 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."

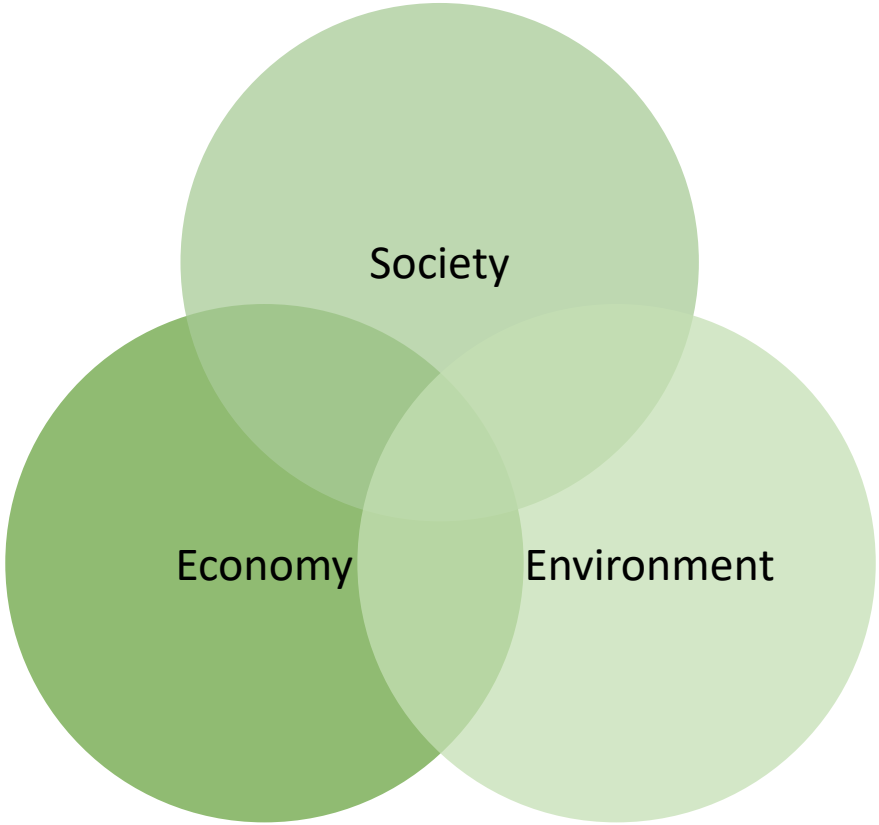
United Nations. Our common future, *Brundtland Report,* (1987).

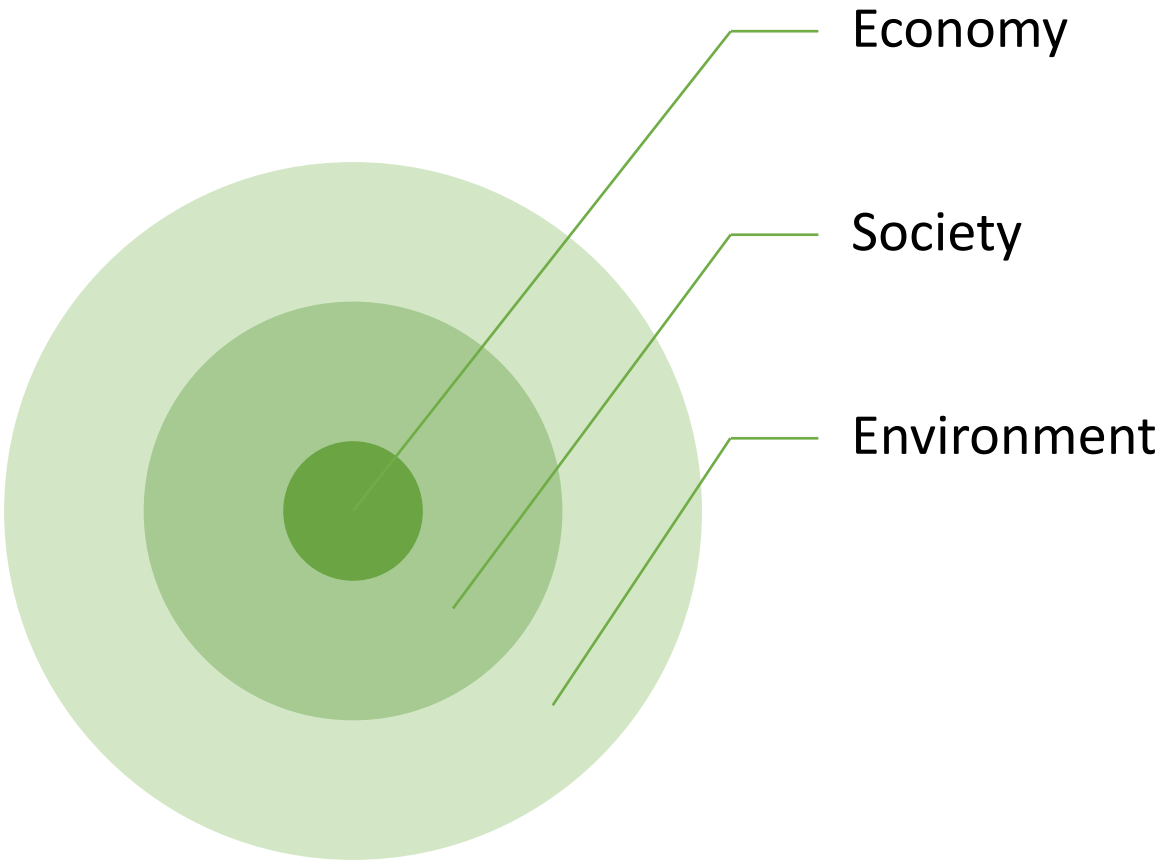
# Education for sustainability

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

J. Cloud, ed. Education for a sustainable future: Benchmarks for individual and social learning, *Journal of Sustainability Education,* (2017).

# Sustainability



# United Nations – Sustainable Development Goals

# 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


SUSTAINABLE
FUTURES

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.

# RESOURCES

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/

# PROJECT CONCEPTUALIZATION & PROTOTYPING

# 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

# Report back

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!