ACM InterActivity Session | May 17, 2018

BRACE FOR IMPACT

STEPHEN ASHTON, Ph.D., Thanksgiving Point
CHERYL McCALLUM, Ed.D., Children’s Museum of Houston
SUSAN FOUTZ, The Children’s Museum of Indianapolis
Question: Why did you come to this session? What are you hoping to get out of it?
SOCIAL IMPACT STUDY AT THANKSGIVING POINT
MUSEUM OF ANCIENT LIFE
ASHTON GARDENS
BUTTERFLY BIOSPHERE
It started with an economic impact study.
WORKING WITH PARTNERS
BENEFITS

• Expanding your resources
• Utilizing others’ expertise
• Collective Impact

CHALLENGES
**BENEFITS**

- Expanding your resources
- Utilizing others’ expertise
- Collective Impact

**CHALLENGES**

- Takes longer
- Timing may not line up (University semesters, etc.)
- Establishing shared objectives/goals
- Cost
- Communication
Determine the social impact we are having on visiting families

Build the case for supporting Thanksgiving Point
IF WE CAN SHOW THIS...

Intermediate Outcomes

- Family Relationships
- Content and Process Knowledge
- Personal Application
- Outlook on Life and Others
- Recharge
- Self Esteem
- Social Interaction
IF WE CAN SHOW THIS...

Intermediate Outcomes

- Family Relationships
- Content and Process Knowledge
- Personal Application
- Outlook on Life and Others
- Recharge
- Self Esteem
- Social Interaction

THEN WE CAN ASSUME THIS

Long-Term Outcomes

- Strengthening Families
- Less Drug Use
- Higher Educational Attainment
- Personal Health & Well-Being
- Social Success
RESULTS HIGHLIGHTS

_Incredibly positive results!_

67 of the 95 measured indicators showed statistically significant positive change.

Most meaningful aspect of participants’ experiences was spending quality time with their family.

Participants were surprised at Thanksgiving Point’s quality, size, beauty, and variety of experiences.

Percentage of the 95 indicators that were significantly changed: 71%
Thanksgiving Point is a 501(c)(3) nonprofit farm, garden, and museum complex that draws upon the natural world to cultivate transformative family learning.

Utah’s New Butterfly Biosphere

ADDING THE SCIENCE TO UTAH’S STEM EFFORTS

Utah’s fast-growing economy presents tremendous opportunities for workers who are prepared and educated in Science, Technology, Engineering, and Math (STEM). Though extensive state funding supports Technology, Engineering, and Math, Utah also abounds with opportunities in the Sciences, such as genetics, engineering, biotechnology, healthcare, and medical devices. Thanksgiving Point’s new Butterfly Biosphere presents a unique opportunity to excite and educate Utah’s future scientists and fill the demand for qualified employees in technology and businesses.

THREE KEY COMPONENTS

LIFE SCIENCE DISCOVERY ZONE
- Utah’s students deserve opportunities to learn science fundamentals outside the classroom.
- Thanksgiving Point’s Butterfly Biosphere provides a unique environment for students to learn and appreciate the natural world.

BUTTERFLY FLIGHT CONSERVATORY AND NEUTEROPHILISZ LAB
- A living science museum, this unique experience immerses students in the world of butterflies and other pollinators.
- The conservatory provides a hands-on learning experience that enhances students’ understanding of the natural world.

RAINFOREST TREETOP SCIENCE LAB
- An interactive ecosystem that teaches the importance of biodiversity, conservation, and the interconnectedness of the natural world.
- A unique opportunity for students to explore and learn about the rainforest ecosystem.

VITAL ECONOMIC ENGINE

In February 2020, Lewis Young Robertson & Partners, an independent real estate financial advisory firm, conducted a scoping economic impact report of Thanksgiving Point. This study concluded “Thanksgiving Point is a key economic engine for the State of Utah.”

Key Findings:
- Thanksgiving Point is the largest cultural institution in Utah and is one of the most highly attended in the nation.
- During the 2021 fiscal year, Thanksgiving Point generated $18,512,000 in economic impact.
- Thanksgiving Point offers over 30,000 hours of paid employment opportunities.

Utah’s New Butterfly Biosphere at Thanksgiving Point

POSITIVE SOCIAL IMPACT

In the fall of 2016, Brigham Young University’s Master of Public Administration faculty and students conducted a longitudinal social impact study that revealed the family visits to Thanksgiving Point not only filled the demand for qualified employees in technology and biosciences but also had a positive impact on the community.

- Increased understanding of the natural world and science education
- Increased environmental awareness
- Increased social and emotional well-being

Thanksgiving Point’s Butterfly Biosphere presents a unique opportunity to excite and educate Utah’s future scientists and fill the demand for qualified employees in technology and businesses.

Thanksgiving Point is a 501(c)(3) nonprofit farm, garden, and museum complex. It is located in Lehi, Utah, and serves as a unique educational environment for families and students.
VITAL ECONOMIC ENGINE

In February 2016, Lewis Young Robertson & Burningham, an independent municipal financial advisory firm, conducted a comprehensive economic impact study of Thanksgiving Point. This study concluded: “Therefore future investment into TPI to ensure well-maintained capital assets will be key to preserve Thanksgiving Point Institute as an economic engine for the Study Area.”

Key findings:
Thanksgiving Point is the largest cultural institution in Utah and is one of the most highly-attended in the nation. During the 2015 fiscal year, Thanksgiving Point Institute:

- Hosted 2,065,000 visitors
- Generated $45 million in additional spending at local businesses
- Produced $3.4 million in tax revenue for local and state government
- Accounted for 587 local jobs with over $9 million in wages and benefits
- Benefited from 1,117 volunteers that donated 29,238 hours of labor
- Had an economic impact from its spending and contracted services, along with spending by guests—of $68,178,000 (does not include indirect multiplier effect as measured by RIMS II economic model)

POSITIVE SOCIAL IMPACT

In the fall of 2016, Brigham Young University Master of Public Administration faculty and students conducted a sophisticated social impact study that invited 60 families who had never attended Thanksgiving Point to visit all four Thanksgiving Point venues.

As a result of their visits, these families reported:

• Increased understanding of the natural world and the learning process
• Improved scientific questioning and exploration
• Increased self-confidence and positive outlook

Extensive research shows that these behaviors lead to stronger families, reduced drug use, increased educational attainment, and improved personal health.

"Thanks again for this chance to spend some quality time with my children in a safe, wholesome, learning environment. We will never forget this fun and educational summer thanks to you."

- Social Impact Study visitor
WORKING WITH PARTNERS (again)
QUESTIONS FOR YOUR TABLE:

How could partners help you demonstrate your impact?

What resources do partnerships bring to the table?
Measuring Family Learning at the Whole Visit Level

Susan Foutz, Director of Research & Evaluation

Brace for Impact: Three Ideas for Measuring Museum Value

InterActivity May 2018
Museum Overview

- Largest children’s museum in the world
- 472,900 square feet indoors, 7.5 acres outdoors
- Over 1.2 million visitors annually
- In the top 20 most visited museums in the US

The Children’s Museum of Indianapolis
Extraordinary. Always.
Museum Overview

- Content-based exhibits organized around a big idea:
  - Dinosphere
  - Beyond Spaceship Earth
  - Take Me There: China
  - Playscape
  - Sports Legends Experience

- Collections: Natural History, American History and Popular Culture, and Archaeology
Our Mission

To create extraordinary learning experiences across the arts, sciences, and humanities that have the power to transform the lives of children and families.
We need a study that...

• Measures family learning at the level of the whole museum visit
• Results in a score (i.e., a number)
• Can be completed annually

ACK!

OK, I can do this!
Demonstrating Organizational Value

- R&E can document successes and demonstrate the impact of a museum.
- A communication point for stakeholders including:
  - Internal stakeholders like my immediate co-workers, the executive team and the board of trustees
  - External stakeholders funding organizations, partner organizations and visitors, the larger community
Family Learning Score

• Adults rate the degree to which their family participated in a set of 17 behaviors.

• Ratings for the 17 behaviors were “summed” to create a score for each family. These scores are then averaged.

• The Family Learning Score can be compared year-to-year.
Family Learning Score: Item Development

Collaborative process with staff from across the Experience Development and Family Learning division.

- Brainstormed statements from the visitors point of view = 100+
- R&E staff cleaned these up and condensed them down to about 70 statements.
- Staff rated statements for the degree to which they thought the statement was indicative of family learning. Reduced to about 30 items.
- Multiple rounds of piloting with visitors yielded the 17 statements we use.
Annual Family Learning Study

- Paper survey with the items from the Family Learning Score and demographics.
- Collected at various times throughout the year with about ½ during the summer.
- Most of the data collection is done by interns.
- Shared the instrument with Thanksgiving Point and the Indianapolis Museum of Art at Newfields.
Family Learning Score

• As a self-report measure, it relies on visitors to reflect on their visit—important to balance this metric with others to create a well-rounded picture.

• Factors that impacted the Family Learning Score included:
  1) length of museum visit and
  2) age of the children.

Sample Items

- I saw how my participation can increase my child’s learning opportunities.
- We made a new family memory.
- We worked with my children to complete an activity.
- We saw something that sparked a conversation about the subject matter.
- We saw something that caused my child to ask me questions.
- My family talked about something we've done before.
- We got ideas for ways to continue to learn at home.
Questions?
• Who are your stakeholders?
• What do they want from you (Or you from them)?
• What “counts” as evidence for them?
Transforming Communities through Innovative, Child-centered Learning
A'STEAM
47 school sites

![Bar chart showing change in mean scores pre to post for Math, Vocabulary, and Science.]

- **Math**: A'STEAM gained 2.8 points, control group gained 0.4 points.
- **Vocabulary**: A'STEAM gained 1.4 points, control group gained 0.8 points.
- **Science**: A'STEAM gained 2.8 points, control group gained 0.7 points.
Evidence of Impacts

- 74% of parents discovered interests and skills of their child with FLIP kits.
- 71% anticipated changing their home reading practice.

FLIP kits versus Books Only comparison.
The Parent Stars event gave me ideas about activities to...

- improve communication with my child
- continue learning over the summer
- use science when working together
- add math into everyday activities
- improve my child's reading enjoyment

The chart shows the proportion of participants' responses, with blue indicating 'many', orange 'some', and grey 'few'.
As children participate in the Museum’s programs, they...

...build confidence in their learning abilities;
...apply basic skills in math and reading;
...communicate their ideas;
...become skilled in scientific inquiry;
...use problem solving processes; and
...experience meaningful connections to the world around them.
Evaluation Committee

Chair
Catherine Horn, Ph.D.

Miguel Ramos, Ph.D.

Leslie Miller, Ph.D.

Venita Holmes, Ph.D.

Robert McCallister, Ph.D.

Barbara Samuels, Ed.D.
5. Spending time at the Children's Museum helps my child:

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Agree / Totalmente de acuerdo</th>
<th>Agree / De acuerdo</th>
<th>Neither Agree or Disagree / Ni de acuerdo ni en desacuerdo</th>
<th>Disagree / En desacuerdo</th>
<th>Strongly Disagree / Totalmente en desacuerdo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Be excited about what he/she is learning (e.g., going back to the same museum activities to try them again or showing enthusiasm for new activities)</td>
<td>○</td>
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<td>Be drawn into engaging experiences (e.g., being the leader in deciding what activities to pursue. Wanting to stay with a task until complete)</td>
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<td>Understand that he/she is good at doing many things (e.g., expressing confidence in several activities such as figuring out how things work, role playing in new activities)</td>
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<td>Use persistence in finding solutions (e.g., staying with an activity until it feels completed. Trying something a second time to do it differently or better)</td>
<td>○</td>
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<td>Gain skills that make him/her better at finding solutions to problems (e.g., practicing using problem solving strategies. Trying multiple approaches to solving a challenge/problem)</td>
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<td>Apply prior knowledge to real-world situations (e.g., using something learned in school or elsewhere to solve a problem at the museum)</td>
<td>○</td>
<td>○</td>
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Houston Endowment
Who Am I as a Learner

5. Spending time at the Children's Museum helps my child: / Pasar tiempo en el Children's Museum ayuda a mi niño/a a:

<table>
<thead>
<tr>
<th>View himself/herself as a learner (e.g., talking about learning that occurs at the museum or associating their museum experience with prior experiences).</th>
<th>Strongly Agree / Totalmente de acuerdo</th>
<th>Agree / De acuerdo</th>
<th>Neither Agree or Disagree / Ni de acuerdo ni en desacuerdo</th>
<th>Disagree / En desacuerdo</th>
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<tr>
<th>Identify new things to learn about (e.g., talking about a new experience or new information).</th>
<th>Strongly Agree / Totalmente de acuerdo</th>
<th>Agree / De acuerdo</th>
<th>Neither Agree or Disagree / Ni de acuerdo ni en desacuerdo</th>
<th>Disagree / En desacuerdo</th>
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<tr>
<th>Be curious (e.g., trying to understand how something works. Asking questions).</th>
<th>Strongly Agree / Totalmente de acuerdo</th>
<th>Agree / De acuerdo</th>
<th>Neither Agree or Disagree / Ni de acuerdo ni en desacuerdo</th>
<th>Disagree / En desacuerdo</th>
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<tr>
<th>Be inspired (e.g., expressing interest in learning or doing more activities related to museum experiences).</th>
<th>Strongly Agree / Totalmente de acuerdo</th>
<th>Agree / De acuerdo</th>
<th>Neither Agree or Disagree / Ni de acuerdo ni en desacuerdo</th>
<th>Disagree / En desacuerdo</th>
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</table>
5. For each of the following, please rate how much spending time at the Children’s Museum influenced your child’s confidence in each of the following areas. /Para lo siguiente, favor de evaluar que tanto pasar tiempo en el Children’s Museum influenció la confianza en sí mismo de su hijo/a en cada una de las siguientes áreas.

<table>
<thead>
<tr>
<th></th>
<th>My child is more confident because of time at CMHM/Mi hijo/a tiene más confianza debido al tiempo en</th>
<th>My child has the same confidence/Mi hijo/a tiene la misma confianza</th>
<th>My child is less confident because of time at CMHM/Mi hijo/a tiene menos confianza debido al tiempo</th>
<th>I am not sure/No estoy seguro/a</th>
</tr>
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<tr>
<td>Using technical vocabulary accurately/Uso de vocabulario técnico con exactitud</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<td>Demonstrating what he/she knows/Demostrando lo que él/ella sabe</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>Talking about experiences in detail/Hablando sobre las experiencias con detalle</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>Using the print text around him/her to build understanding/Usando el texto impreso en su alrededor para construir entendimiento</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Posing questions/Formulando preguntas</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Using failure and success for learning/Usando el fracaso y el éxito para el aprendizaje</td>
<td>☐</td>
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</tbody>
</table>
Understanding and Evaluating Problems in Sophisticated Ways

Average Scale Score

Age 1-2  Ages 3-5  Ages 6-8  Ages 9-11  Ages 12 and Over

Parent Stars  Museum
Can your mind come out to play?

Children’s Museum of Houston
BRACE FOR IMPACT

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