XCL

Extend and Customize Learning

3 year technology grant, funded by IMLS
Project led by the Children’s Museum of Houston

In partnership with Sciencenter, New York Hall of Science, Oregon Museum of Science and Industry, and Museum of Life and Science

Lawrence Hall of Science has developed our web content, and Garibay Group is our chief evaluator, and IMLS has funded the project
Our Goal is Three-fold

- Extend and customize learning through mobile access to digital media content at specific exhibit component.
- Evaluate visitor outcomes related to experience with XCL exhibits as compared to experience without the XCL additions.
- Make all Open Source XCL products available for other museums.
Exploratory Research and Initial Testing

Implementation of Yooba Kiosk

2013

Pariveda Solutions & XCL

2014

More CMH app launched in March 2015

Formative Evaluations

2015 - 2016

2013

Exploratory Research and Initial Testing

2014

Redeveloped 21Tech.org for XCL

2014

XCL app for each partner sites

Team Based Inquiry, developed through NISE Network
**Home Page**

Exhibit ◆ Info ◆ Map

**Landing Page**

Exhibitions ◆ Components

**App Structure**

Exhibit ➔ Component ➔ Categories ➔ Posts
XCL Evaluation

Formative Cycles

Cycle 1 Features
Cycle 2 Behaviors
Cycle 3 Interactions With and Without App

Final App
Summative

Refine App
Refine App
Curiosity Corner: Learning Together
CHANGES TO COME

Curiosity Corner Renovations

Explore your senses, strengthen motor skills, and have fun learning together.

Enhanced programming for toddlers and parents.

Coming soon to the new Curiosity Corner!

Learn more at www.sciencenter.org
And we’re still keen on making this a truly useful TOOL rather than a digital distraction!
Early childhood research about water play suggests...

Cause and effect is a foundation to learning, and is a fun way to play at the same time! Matching stories to current activities also helps children learn and solidifies memories. Talk together about the last time it rained, what it's like to wash clothes, or one time when you saw a waterfall.

Pass the water!

Find two pouring cups in the water area. Take one for you and one for your child. Ask your child to fill up their cup and then have them pour the water into your cup. Now, you try the same thing! Together, count how many times you can pour the water back and forth.

Make water move...

Water is a great place to explore cause and effect! Can you and your child find a way to sprinkle water like rain? Can you pour it like a waterfall? How many different ways can you make it move?

More information about water play...

Cycle 3 Evaluation Findings

- If given the chance, families looked at the app before their visit and became familiar with the structure and content.
- During the visit, they mostly used the *Try This* section.
- Families reported that the app added to their experience and that they would like to have an app like this, but also indicated that they were pretty familiar with the curiosity Corner and the Sciencenter (so maybe wouldn’t need it).
Gateway Park: Climbing Structure
Content Adaptations based on Formative Findings

- Asking questions to enhance learning experience
- Removed sharing, comments, and camera options
- Extend learning experience beyond the museum
Testing 5 Components for Summative Evaluation

Amazing Airways
Build a Molecule
Keva
Launch Cage
Test Track
Post Categories

- What is it?
- What do I do?
- Our Monthly Experiments
- Big Questions
- Do This At Home!
- Dig Deeper
- Try This!
- What’s Happening?
- Fun Facts!
- Exhibit Extension
Make the Rocket Spin

By slightly angling the fins at the bottom of your rocket all in the same direction you can force the rocket to spin as it flies through the air.

- Fun Facts!
- What do I do?
- Try this!
- Do This At Home!
- Dig Deeper!
- Big Questions
- Dig Deeper!
- Do This At Home!
Summative evaluations are being conducted at each partner site with two conditions, with app and without app.

In addition to the two conditions, CMH has added a third condition, mounted device. These conditions will help in evaluating behaviors and engagement of visitors using museum provided device on a mount versus personal mobile device.
Continue to provide XCL updates and archive information in the following areas.

- App development
- Exhibit and content selection
- XCL evaluations and publications
- Project history and dissemination on a open source platform